PRICE LIST

—OF—

MACHINERY

—AND—

CATALOGUE

OF

SUPPLIES

A. R. WILLIAMS,

MANUFACTURER AND DEALER IN

Machinery and Mill Supplies

OF EVERY DESCRIPTION.

SOHO MACHINE WORKS,

Esplanade, near Union Station,

TORONTO, ONT.

JAMES MURRAY & CO., PRINTERS, TORONTO.

PLEASE NOTE.

In writing me be particular to give your post-office address, and write your name plainly.

To save unnecessary correspondence please give as full particulars as possible of the machinery you require.

In ordering be particular to give all measurements so that I can fully understand what you desire me to send you, and full plain shipping directions.

All claims for errors must be made on receipt of goods.

Discount Sheets furnished on application.

Prices are subject to change without notice.

All orders for machinery to be taken upon, or subject to the conditions, of my usual lien order forms.

All quotations for machinery are on a Cash Basis; and for **Supplies,** monthly settlements. If under $30 per month, net cash. If over $30 per month, three months, or 3 per cent. off for prompt cash.

INTRODUCTORY.

IN presenting this catalogue to the Trade and users of machinery, I desire to thank my customers for the patronage bestowed upon me. and to assure them that I will endeavor, by prompt and careful attention to their needs, by sending them the very best goods, and by giving early and full replies to their inquiries for information, to merit a continuance of their trade.

I intend this catalogue to be, as per the title page, a

"Price List of Machinery,"

AND A

"Price List and Illustrated Catalogue of

MACHINERY & SUPPLIES."

I will furnish full particulars of any of the machines herein on application.

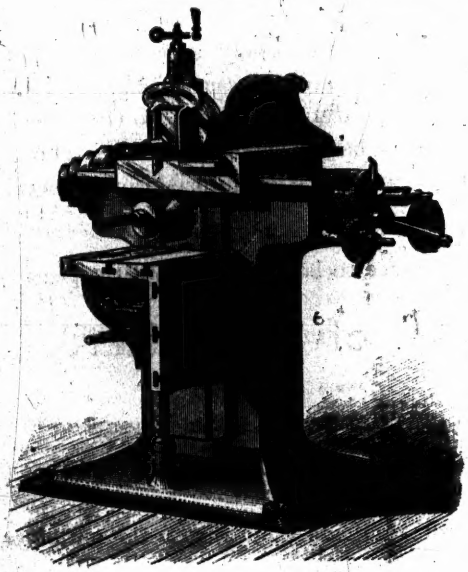
This catalogue only covers prices for new machinery and goods. I always have in stock a large supply of second-hand machinery and goods, which, when refitted and put in first-class order, I can sell at quite a discount from prices of new machinery. I will send list of second-hand machinery on application.

A. R. WILLIAMS,
SOHO MACHINE WORKS,
Toronto, Ont.

Sept. 1, 1887.

PRICE LIST.

Iron Working Machinery.



10 x 18 Pedestal Shaper.

Shaping Machines.

10 x 18 Pedestal, with Automatic Cross and Circular Feeds, $375.00.

16 x 20 Gould & Eberhart Pattern, with Automatic Cross and Down Feeds, $375.00.

Iron Planers.

WILL PLANE			UNIVERSAL FEED.	DOWN FEED OF FIDDLE HEAD.	WEIGHT. (About)	PRICE.
WIDTH.	HEIGHT.	LENGTH.				
18 in.	18 in.	4½ in.		8 in.	2,250	$400
24 "	24 "	6½ "		10 "	4,200	525
24 "	24 "	7 "		10 "	4,500	555
26 "	24 "	8 "		10 "	5,000	650
30 "	30 "	10 "	Hand	12 "	10,000	900
36 "	30 "	10 "	"	12 "	11,000	950
36 "	33 "	12 "	Power	14 "	16,000	1,075
42 "	42 "	14 "	"	14 "	18,000	1,500
48 "	48 "	16 "	"	15 "	20,000	1,900

Engine Lathes.

(Send for Circulars giving all details.)

No.	Swing over Shears.	Length of Bed.	Length Will Turn.	Swing over Car'ge.	Style of Tool Rest.	Style of Feed.	Face of Cone.	Price.	Extra per Ft. of Bed.
1	15 in.	6 ft.	3 ft. 5 in.	7½ in.	Gibbed.	Rod and Screw	4 steps 2	$270 00	$12 00
2	15 "	6 "	3 " 5 "	6 "	Elevating.	"	4 " 2	285 00	12 00
3	15 "	6 "	3 " 5 "	6 "	Compound.	Rod, Screw and Cross	4 " 2	320 00	12 00
4	15 "	6 "	3 " 5 "	7½ "	Gibbed.	Screw	4 " 2	240 00	11 00
5	16 "	6 "	3 " 0 "	8½ "	"	"	4 " 2½	300 00	12 00
6	16 "	6 "	3 " 0 "	8½ "	"	Rod, Screw and Cross	4 " 2½	330 00	12 00
7	18 "	6½ "	3 " 2 "	10 "	"	Rod and Screw	4 " 2½	375 00	15 00
8	18 "	6½ "	3 " 2 "	10 "	Elevating.	"	4 " 2½	385 00	15 00
9	18 "	6½ "	3 " 2 "	10 "	Gibbed.	Rod and Screw Cross Feed and Hol'w Spindle	4 " 2	425 00	15 00
10	20 "	8 "	4 " 5 "	10 "	"	Rod and Screw	4 " 3	450 00	18 00
11	22 "	8 "	4 " 5 "	10 "	"	"	4 " 3	480 00	18 00
12	24 "	10 "	6 " 4 "	12 "	To suit.	"	4 " 3½	550 00	24 00
13	26 "	10 "	6 " 4 "	12 "	"	"	4 " 3½	600 00	24 00
14	28 "	10 "	6 " 0 "	12 "	"	"	4 " 4	675 00	24 00
15	32 "	10 "	5 " 8 "	14 "	"	"	4 " 4	800 00	30 00
16	44 "	16 "	10 " 0 "	24 "	Compound.	"	5 " 5	1,350 00	50 0 0

Engine Gap Lathes.

SWING OVER SHEARS.	SWING IN GAP.	LENGTH OF BED.	PRICE.	EXTRA PER FOOT OF BED.
22 in.	36 in.	10 ft.	$475 00	$15 00
26 "	42 "	10 "	550 00	20 00
Special—				
26 in.	42 "	20 " 8 in.	700 00	20 00
30 "	50 "	12 "	700 00	25 00

Turret Lathes.

14 in. Swing Plain Turret	$400 00
16 " " " "	450 00
16 " Swing with Back Gear and Power Feed	525 00
16 " Swing with Back Gear, Power Feed, Wire Feed and Chuck Motion in the Head	650 00

Milling Machines.

No. 1 Plain Milling Machine (Brainerd Pattern)	$350 00
No. 1 Back Geared Milling Machine (Brainerd Pattern)	400 00
No. 2 Plain Milling Machine (Brainerd Pattern)	450 00
No. 2 Back Geared Milling Machine (Brainerd Pattern)	550 00

All the above have vises.

Drilling Machines.

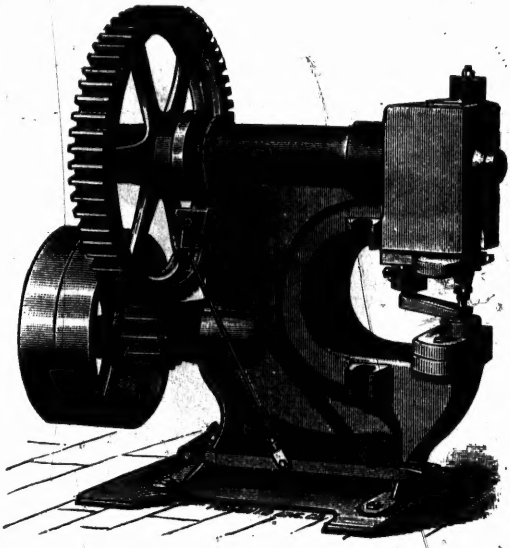
(Send for Circular.)

No.	DRILL TO CENTRE.	PRICE PLAIN.	PRICE WITH BACK GEAR.	STYLE OF FEED.
1	16 in.	$125 00	.....	Hand & power.
2	20 "	175 00	$225 00	" "
3	26 "	.....	275 00	" "
4	32 "	.....	350 00	" "
5	40 "	.....	400 00	" "
6	48 "	.....	500 00	" "

Suspension Drill, plain	$140 00
" " back geared	190 00
Radial Drilling Machine	1,200 00

See page 9 for particulars of Blacksmiths' Drills.

Sundry Iron-Working Machinery.

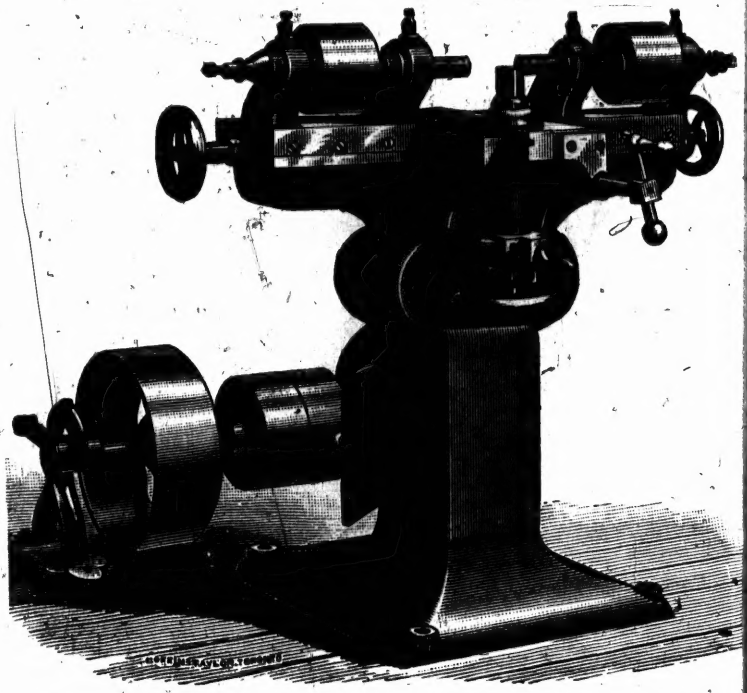


I will mail, on application, circulars giving full description of any of the following machines. Where I have no circulars I can generally send photos and a letter-press description.

Punch and Shears, 6 in. gap, "Single"	$200 00
" " 12 " " "	320 00
" " 24 " " "	450 00
" " 12 " " "Double"	500 00
" " 24 " " "	725 00
Bradley Hammer, 40 lb.	400 00
Drop Hammer, 500 " Moline Pattern	500 00
" " 800 " P. and W. "	800 00
Drop Press, No. 19, Bliss "	225 00
" " Heavy " "	350 00
Bolt Cutter, Stationary Die, Cuts from ⅜ to 1½ inches, with Taps, Dies and Collets	350 00
Bolt Cutter A. and P. revolving head, Cuts from ⅜ to 1½ inches	380 00
" Schlencker " " " "	425 00
Seaton Bolt Headers, No. 1 Machine	800 00
" " " 2 "	1,000 00
" " " 3 "	1,400 00
Forge Furnace, 26x34 inside, lined with fire brick	75 00
Key Seat Slotters, ⅜, ½ and ⅝-inch cutters	125 00
Heavy Slotting Machine	1,100 00
Index Centres for Milling Machine	140 00

Brass Workers' Machinery.

(Send for Circulars.)



2-Spindle Valve Milling Machine	$325 00
Fox Lathe, complete	360 00
Fox Monitor Lathe, complete	450 00
Cock Grinding Lathe, "	140 00
Plain Lathe, with set over tail stock	200 00
8-in. Bench Lathe and C shaft	75 00
12 " Plain " " " (on legs)	110 00
14 " " " " "	135 00
12 and 14-in. Lathes, with compound tool rest, extra	35 00
Globe Valve Chuck, to 1 inch	60 00
" " " " 2 "	70 00

(For Brass Monitors see Turret Lathes.)

Barnes' Foot-Power Machinery.

Iron Tools.

(Send for Special Catalogue.)

No. 4. Lathe, complete, for foot power	$48 00
4½. " " " "	80 50
5. " " " "	115 00
6. " " " "	167 50
6. " " with C shaft, for power	175 00
7. " 15 x 7, complete, with C shaft, for power	275 00
1. (20 in.) Drilling Machine, round base	100 00
1. (20 in.) " " square base	110 00
2. (25 in.) " " back geared, square base	225 00

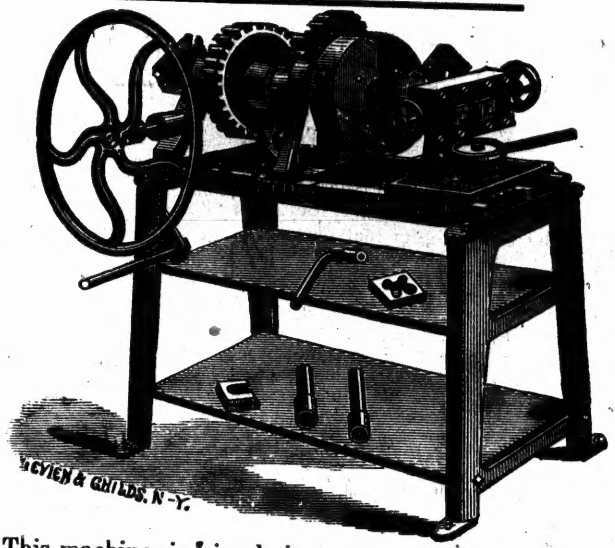
Wood Tools.

No 1. Amateur Scroll Saw	$14 00
2. Velocipede "	24 00
2. " " with Boring Attachment	28 00
6. Amateur " " " "	15 00
7. Large Size "	18 00
Foot Power Former	24 00
Circular Rip-Sawing Machine	60 00
Combined Circular and Scroll Saw and Boring Attachment, including 2 Circular Saws, 12 assorted Scroll Saws, the Boring Attachment, with an "Old Reliable" Self-centring Drill-Chuck, all combined in one machine	60 00
Combined Circular and Scroll Saw, including 2 Circular Saws and 12 assorted Scroll Saws	48 00
Circular Saw alone, including 2 Circular Saws, 1 Rip and 1 Cross-cut	42 00
Scroll Saw alone, including 12 assorted Scroll Saws	38 00

When either the Circular Saw, Scroll Saw or Boring Machine has been ordered separate, the other parts can be furnished, if the number of the machine is given, at the following prices:

Circular Saw Attachment, Mandrel and Boxes, with 2 6-inch Circular Saws, 1 Rip and 1 Cross-cut	$15 00
Scroll Saw Attachment, including 12 assorted Scroll Saws	9 00
Boring Attachment, including an "Old Reliable" Self-centring Drill-Chuck	14 00
Counter Shaft for steam power	14 00

I. X. L. Pipe Machine.



This machine is simple in construction, easy to work, not liable to get out of order, and requires no skilled labor. The arrangement of the gearing permits of the machine being adjusted to the work to be done, enabling one man to screw two-inch pipe with ease.

CROOKED THREADS CANNOT BE CUT,

as the pipe revolves, and the die stands still. There are no loose guides to be changed or lost. The machine can be easily arranged to operate by belt power when desirable.

It is also an excellent machine for machine and jobbing shops, for *cutting off round iron and steel*, and with the Bolt-Threading and Nut-Tapping Attachment it makes a very good Bolt-Threader and Nut-Tapper.

HAND MACHINE,

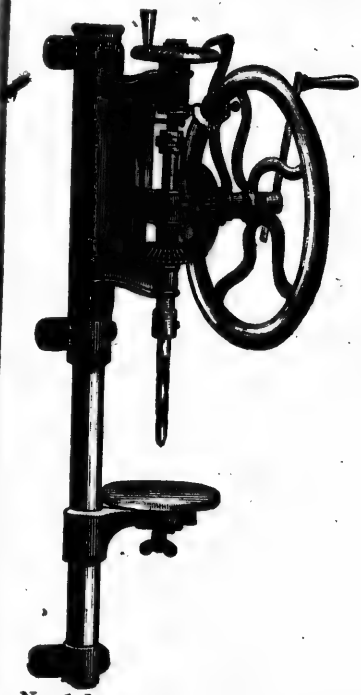
with set of Dies ¼ to 2 inches inclusive, Fly-Wheel, and set of Sockets for making Nipples ¼ to 2 inches—complete.....$100 00

POWER AND HAND MACHINE,

with set of Dies ¼ to 2 inches inclusive, Fly-Wheel, Pulleys, Countershaft, and set of Sockets for making Nipples ¼ to 2 inches—complete.....$115 00

Speed of Countershaft, 200 revolutions per minute; Pulleys 11 inches in diameter.

Blacksmiths' Machinery.



No. 1 Drilling Machine.

No. 1. Hand Drilling Machine	$23 00
2. Hand Drilling Machine	30 00
3. Hand Drilling Machine, double geared	35 00
0. Bolt Clipper, cuts to three-eighths	4 00
1. Bolt Clipper, cuts to seven-sixteenths	5 00
2. Bolt Clipper, cuts to one-half	7 00
3. Bolt Clipper, cuts to five-eighths	9 00
1. Bolt-Threading and Nut-Tapping Machine, Taps, Dies and Collets, $\frac{1}{4}$ to $\frac{3}{4}$ inch	65 00
2. Bolt-Threading and Nut-Tapping Machine, Taps, Dies and Collets, $\frac{1}{4}$ to 1 inch	85 00
1. Tire Bender	10 00
2. "	12 00
3. "	30 00
1. Tire Upsetter, to 2 in. wide. Weight 100 lbs	14 00
2. Tire Upsetter, to 4 in. wide. Weight 150 lbs	18 50

Bellows.

DOMINION.		COMMON.	
24 inch	$15 00	24 inch	$12 00
26 "	16 00	26 "	13 00
28 "	17 00	28 "	14 00
30 "	18 00	30 "	15 00
32 "	22 00	32 "	16 00
34 "	24 00	34 "	17 00
36 "	28 00	36 "	18 00
38 "	32 00	38 "	22 00
40 "	36 00	40 "	26 00

Coopers' Testing Bellows ..... $5.00.
Moulders' Bellows ..... $18.00 per doz.
Portable Forge ..... No. 1, $22.00; No. 2, $32.00; No. 3, $42.00.

Wood Working Machinery.

I can furnish circulars with wood cuts or photos of any of the machines enumerated herein by return mail. These machines are manufactured to order specially for my trade.

LIGHTNING PLANING AND MATCHING MACHINE, S. A. Woods' No. 2½ double surfacer, six pairs of 8½-in. feed rollers; weight, 6,500 lbs.; 14 in. wide, 4 in. thick	$1,400 00
No. 1. PLANER AND MATCHER, three pair 8-in. feed rolls, 24 in. wide, 5 in. thick	800 00
With Double Cylinder and Beading Attachment	1,100 00
No. 2. Three pair 7-in. feed rolls, 24 in. wide, 5 in. thick	700 00
No. 3. Two pair 6-in. feed rolls, 24 in. wide, 5 in. thick, with improved cone feed	580 00
Side Gear and Index for do., extra	25 00
Beading Attachment	50 00
No. 4. Two pair 5-in. feed rolls, 24 in. wide, 4 in. thick	450 00
Beading Attachment	50 00
No. 5. PLANING, MATCHING AND MOULDING MACHINE, single surface, 24 in. wide, 5 in. thick, two pairs 5-in. feed rollers, slotted cylinder heads and Shimer matcher heads	450 00
Do., double surfacer, three sets feed rollers	550 00
Do., single surfacer, pony machine, 24 in. x 5 in.	325 00
Do., double " " " " "	400 00
ECLIPSE PONY PLANER, MATCHER AND MOULDER, 24 in. wide, 6 in. thick, slotted cylinder heads, Shimer matcher heads	325 00
Whitney Planer, 24 in. wide	400 00
" " 28 "	425 00
" " 30 "	500 00
Counter Shaft for do	35 00
Diagonal Door Planer and Polisher	700 00
No. 1. Double Surface Revolving Bed Planer, improved delivery rolls in front of under cylinder, planes 26 in. wide, 10 in. thick, with counter shaft, self-contained	725 00
No. 2. Revolving Bed Planer, patented, geared on both sides, planes 26 in. wide and from 1-16 to 10 in. thick	375 00
Counter Shaft and Pulleys for do	35 00
No. 3. Revolving Bed Planer, patented, double geared, planes 24 in. wide and from 1-16 to 10 in. thick	285 00
Counter Shaft and Pulleys for do	35 00

inery.

s or photos of any
urn mail. These
ally for my trade.

ACHINE,
rs of 8½-in.
n. thick.... $1,400 00
8-in. feed
.. .... 800 00
..... 1,100 00
thick..... 700 00
hick, with
..... 580 00
..... 25 00
..... 50 00
ck..... 450 00
..... 50 00
NG MA-
two pairs
Shimer
..... 450 00
..... 550 00
..... 325 00
..... 400 00
ULDER,
Shimer
..... 325 00
..... 400 00
..... 425 00
..... 500 00
..... 35 00
..... 700 00
nproved
n. wide,
..... 725 00
h sides,
..... 375 00
..... 35 00
planes
..... 285 00
..... 35 00

Wood Working Machinery—*Continued.*

New and Improved Surface Planer, planes 24 in. wide and 8 in. thick, top and bottom rollers driven by gear, complete, with counter shaft	$165 00
Do., 20 in. wide, 8 in. thick	.. ..
BUZZ PLANERS, with counter shaft and either straight or diagonal knife	145 00
No. 1. 12 in. wide	75 00
" 2. 16 "	100 00
" 3. 20 "	125 00
" 4. 24 "	150 00
No. 1. Patent Revolving Bed Moulding Machine, planes 12 in. wide, matches 10 in., table drops 12, to work four sides	650 00
No. 1. Do., to work three sides	550 00
No. 2. Patent Revolving Bed Moulding Machine, planes 10 in. wide, matches 10 in., table drops 12 in. to work four sides	550 00
No. 2. Do., to work three sides	450 00
No. 3. Moulding Machine, ordinary style, planes 8 in., table drops 12 in. to work four sides	400 00
No. 3. Moulding Machine, ordinary style, to work three sides	350 00
No. 4. Moulding Machine, to work three sides, planes 7½ in. wide, drops 14 in., ordinary style	250 00
No. 4. Do., one side	200 00
No. 5. Do., for sash, one side, planes 5 in., table drops 14 in.	175 00
No. 6. Do., wood frame	125 00
WOOD LATHES, 18-in. swing, with all parts, which includes head and tail stock, counter shaft, two rest sockets, one double and two single T rests, bell chuck and face plate	45 00
Do., 24-in. swing, with all parts	60 00
SCROLL SAW, with iron frame and circular iron top, and having a first-class, simple and easily-regulated top tension	75 00
BAND SAW, the "New Era," with 30-in. wheels, and all latest improvements, made to bolt to a post, warranted	100 00
Do., 34-in. wheels, heavy iron frame with all improvements	175 00
SAW TABLE, iron frame rip saw table, with adjustable mandrel, adjustable fence and counter shaft, with wood top	90 00
Do., iron top	115 00
CUT-OFF FENCE AND BORING ATTACHMENT, for either of the above	10 00
COMBINED SAW TABLE, rip and and cross cut, Carey & Harris' pattern, with rip and cut-off fences and counter shaft, complete	150 00

Wood Working Machinery—*Continued.*

CUT-OFF SAW TABLE, iron frame, with counter shaft attached	$125 00
SAND PAPERING MACHINE, ordinary door elbow sander with usual parts	45 00
SAND PAPERING OR POLISHING MACHINE, 24-in. machine with two drums and eight geared feed rolls	400 00
Do., 30-in. machine	475 00
PERFECTION WOOD POLISHER, full combination, with cutter head, sand cylinder and sand pad, 24-in., $700.00; 30-in., $800.00; 40-in., $900 00	.....
Do., treble sander, with two sand cylinders and sand pad, 24-in., $650.00; 30-in., $750.00; 40-in., $850 00	.....
Do., double sander, with one sand cylinder and sand pad, 24-in., $575.00; 30-in., $625.00; 40-in	700 00
BLIND MACHINERY.—Ellis' Blind Slat Tenoning Machine	70 00
Do., Improved Blind Slat Tenoning Machine	75 00
Do., New and Improved Blind Stile Boring and Morticing Machine	130 00
Do., Blind Slat Wiring Machine, foot	25 00
Do., " " " " hand	15 00
Mitreing Machine, foot	25 00
" " hand	14 00
GAUGE LATHES.—No. 1. Bailey broom handle lathe	130 00
Do., No. 2. Bailey broom handle lathe, turns to 4 ft. 6 in. long	200 00
Do., No. 3. " " " " " " 7 " 6 "	230 00
Do., No. 1. Waymouth lathe, works stock up to 2 in	225 00
Do., No. 2. " " " " " 2½ in	250 00
Do., No. 3. " " " " " 3 in	275 00
PERFECTION GAUGE LATHES.—No. 1. broom handle lathe	130 00
Do., No. 2. Turns to 3 ft. 8 in. long	160 00
Do., No. 3. " 4 " 8 "	210 00
Do., No. 4. " 7 " 8 "	240 00
SPOKE LATHE, for turning irregular forms, such as handles for axes, picks, hammers, spokes, etc	235 00
IMPROVED SCOURING MACHINE, with belt	40 00
AUTOMATIC HANDLE SAWING MACHINE, for sawing square sticks or handles up to 8 ft. long	650 00
CARVING MACHINE, Buss' improved carver	95 00
DOVE-TAILING MACHINE, Boult's pattern	325 00

y—*Continued.*

counter shaft	
.....	$125 00
r elbow sander	
.....	45 00
HINE, 24-in.	
eed rolls.....	400 00
.....	475 00
bination, with	
4-in., $700.00;	
.....	.....
nd sand pad,	
00.	.....
nd pad, 24-in.,	
.....	700 00
oning Machine	70 00
.....	75 00
nd Morticing	
.....	130 00
.....	25 00
.....	15 00
.....	25 00
.....	14 00
le lathe.....	130 00
ft. 6 in. long	200 00
" 6 "	230 00
2 in.....	225 00
2½ in.....	250 00
3 in.....	275 00
oroom handle	
.....	130 00
.....	160 00
.....	210 00
.....	240 00
ch as handles	
....	235 00
elt.....	40 00
NE, for saw-	
.....	650 00
.....	95 00
.....	325 00

Wood Working Machinery—*Continued.*

TENONING MACHINE, with double copes and 5½-in. heads, iron frame machine, complete.....	$160 00
Do., with single cope.....	150 00
Do., without copes.....	135 00
Do., heavy machine with double copes and 8-in. heads.....	240 00
SHAPING MACHINE, No. 1. Iron frame with wood top, three sets of collars and guide.....	100 00
Do., No. 1. Same as above with iron top.....	115 00
Do., Pedestal frame machine with all parts and iron top.....	135 00
No. 1. Morticing Machine, foot.....	16 00
No. 2. " " "	18 00
Improved " " power	140 00
" " " " with Boring Attachment.....	160 00
Improved Horizontal Boring Machine, with one spindle.....	90 00
" " " " " two spindles, adjustable.....	125 00
Post Boring Machine, driven by gears.....	25 00
" " " " belt	30 00
Stroke Jointer, 4-ft. stroke.....	250 00
" " 5 "	275 00
" " 6 "	325 00
" " 7 "	390 00
RELISHING MACHINE, combined, for both sash and doors	500 00
DOOR CLAMP, Abercrombie's patent, wood frame, iron mounted	75 00
SASH CLAMP, Abercrombie's patent, wood frame, iron mounted	50 00
RIM AND SPOKE ROUNDER, iron frame, with two heads	60 00
RE-TENONING MACHINE, iron frame, Pettingell pattern	75 00
HUB MORTISING MACHINE, iron frame.....	350 00
RIM BORING MACHINE, " "	150 00
BOSS SPOKE LATHE, " "	300 00

Separators.

. I. C. AGITATOR, No. 1—36-in. cylinder, 48-in. separator, for steam, end shake.....	$420 00
Do., No. 2.—32-in. cylinder, 44-in. Separator, for horse power, end shake.....	375 00
No. 1.—McCLOSKEY SEPARATOR, 36-in. cylinder and 48-in. separator	425 00
No. 2.—Do., 32-in. cylinder and 48-in. separator.....	410 00
No. 3.—Do., 32 " " 44 "	400 00
No. 4.—Do., 30 " " 44 "	390 00

Saw Mill Machinery.

Lane's Lever-Set Circular Saw-Mills.

WITHOUT SAWS.

(See Saw List for Prices of Saws.)

	No. 1.	No. 2.
Iron Frame, with Carriage to cut 20 feet	$355 00	$425 00
" " " " " 25 "	385 00	460 00
" " " " " 30 "	430 00	510 00
" " " " " 35 "	460 00	545 00
" " " " " 40 "	520 00	635 00
" " " " " 45 "	580 00	700 00
" " " " " 50 "	620 00	760 00
" " " " " 55 "	670 00	800 00

Above prices include Fairbank's Gauge Roll, Frost Dogs, Upright Indicator, Lane-Pattee Foot Rig.

"Eclipse" Saw Mill.

This is a heavy iron-frame mill with heavy steel mandrel, patent curved teeth (Thompson dogs), paper friction feed and gig back, taper attachment for sawing taper timber, receding movement which operates head blocks either at rest or in motion, with carriage wooded, rope feed. A first-class, heavy, substantial iron-frame saw mill, capable of cutting from 15,000 to 50,000 feet lumber per day, according to the material and power used.

Two-block mill, complete with 60-in. saw	$700 00
Three " " " " " "	825 00
Four " " " " " "	950 00

The Esplin Band Mill.

This mill has been pronounced by competent mill men to be the best band mill in the market. I can furnish for prompt delivery. Send for circulars and quotations.

s,

nery.

r Saw-Mills.

of Saws.)

	No. 1.	No. 2.
...	$355 00	$425 00
..	385 00	460 00
..	430 00	510 00
..	460 00	545 00
..	520 00	635 00
..	580 00	700 00
..	620 00	760 00
..	670 00	800 00

ge Roll, Frost Dogs,
g.

ill.

ith heavy steel man-
ogs), paper friction
for sawing taper
erates head blocks
e wooded, rope feed.
ne saw mill, capable
et lumber per day,
d.

..... $700 00
..... 825 00
..... 950 00

ill.

ompetent mill men
I can furnish for
quotations.

Saw Mill Machinery—*Continued.*

(Send for Circulars, and in writing give Particulars of Requirements.)

Saw Mill Dogs (D. W. Thompson's Patent) per pair	$ 75 00
No. 1 Canter (Iron Work)	100 00
" 2 " "	125 00
" 3 " "	150 00
SINGLE EDGER, Iron Work, complete, including mandrel, 18-in. saw, counter shaft, wheels, shafts, boxes and track	55 00
DOUBLE EDGER, Iron Frame, two 16-in. saws, one with lever to move and one stationary with dials and pointer	300 00
DOUBLE EDGER, Iron Frame, with three 18-in. saws, two movable	350 00
GANG EDGER, Iron Frame, complete, with five 18-in. saws, a heavy first-class machine	500 00
No. 1. BULL WHEEL, Iron Work, 100 ft. 7-16 chain, with friction feed, lever and eccentric box, and barrel for chain	85 00
No. 2. BULL WHEEL, Iron Work, heavier, 100 ft. ½-in. chain, with friction feed, lever and eccentric box, and barrel for chain	100 00
No. 1. TWO-SAW TRIMMER; complete machine, heavy wood frame, iron mounted, with two 18-in. saws	125 00
GANG TRIMMER, to cut 10 to 18 feet, six saws	450 00
SLAB SAW RIG	75 00
No. 1. SWING SAW, Iron Work, 18 in. saw	30 00
" 2. " " 24 " "	42 00
" 3. " " 28 " "	50 00

SLASH TABLE with Ewart chain and six saws. (Send particulars for prices.)

PONY SAW MILL, with heavy wood frame, iron mounted, paper friction feed and gig back, and having head blocks wooded, with all necessary rack and track, capable of carrying up to a 60-in. saw, and cutting from 6,000 to 15,000 per day, according to the power used. With two head blocks and 48-in. saw	350 00
Same as above, with three head blocks and 48-in. saw	400 00

Extra size of saw at extra price.

Shingle Mill Machinery.

(*Send for Circulars.*)

"Boss" Shingle Machine with Saw	$300 00
" Drag Sawing Machine with Saw	125 00
" Shingle Block Bolter, 44 Saw	125 00
" Shingle Jointer, 38-5 Knife	125 00
" " Packer (all iron frame)	50 00
Drag Saw Iron Work and Saw	25 00
36-in. 4-knife Jointer (all iron frame)	95 00
42-in. 6-knife " " "	35 00
Upright Swing Shingle Machine, with Saw	50 00
	150 00

Lath Machinery.

"Boss" Lath Bolter	$110 00
" " Machine	125 00
Lath Equalizer	55 00
Lath Yarn at Market Price.	

Veneer Machinery.

I control the patterns, and manufacture to order heavy, substantial Veneer machines, suitable for cutting cheese-box material and veneer from $\frac{1}{32}$ to $\frac{3}{8}$ of an inch thick. Can arrange the capacity of the machine to suit the work required, cutting from 3 ft. to 6 ft. long. The machine is built on a heavy oak timber frame, solidly tenoned and bolted together. Iron work fitted on, complete, and making one of the most substantial Veneer machines manufactured on the continent. I have quite a number in use, and can furnish good references as to the ability of the machine.

Price for the 6-ft. Machine, complete, free on board cars at Toronto $650 00

Horizontal Stationary Tubular Steam Boilers.

(Made of Dalzell Steel.)

DIMENSIONS AND PRICE LIST.

Horse Power.....	10	15	20	25	35	40	50	60	70	85
Diameter.....in.	30	34	36	44	48	48	54	60	60	66
3-in. Tubes.....	20	22	30	40	52	52	64	76	76	100
Length of Tubes..ft.	8	9	10	10	11	12	12	12	14	14
Shipping Weight....	4200	4800	6600	8000	9700	10500	12500	15500	16500	19700
Price with Fixtures..	$250	$300	$350	$450	$575	$600	$800	$900	$1000	$1200

FIXTURES.—Cast Iron Front; Grate Bars (coal or wood); Safety Valve; Steam Gauge, Gauge Cocks; Glass Water Gauge; Blow-off Cock; Ash Pit Door and Frame.

SMOKE STACKS.

Diameter.....inches.	12	15	16	20	22	26	28	30	34
Weight per foot.....pounds.	10	12	13	17	19	23	26	29	40
Price per foot.....	$0 75	$0 90	$1 00	$1 10	$1 25	$1 50	$1 75	$2 00	$2 50

Portable Boilers on Skids.

Number of Size	0	1	2	3	4	5	6	7	8
Horse Power, as usually rated	6	8	10	12	15	20	25	30	35
Diameter of Boiler ... in inches	26	28	30	32	32	34	36	40	40
Length of Furnace ... "	34	36	38	38	44	52	52	60	60
Width of Furnace ... "	21	22	24	26	26	28	30	34	34
Height of Furnace ... "	29	33	35	35	35	37	40	43	43
Number of Tubes	17	20	22	26	26	30	34	40	42
Diameter of Tubes ... in inches	3	3	3	3	3	3	3	3	3
Length of Tubes ... "	60	72	78	72	78	90	96	102	120
Diameter of Stack ... "	12	14	14	15	16	16	18	20	20
Length of Stack ... in feet	18	20	20	20	20	24	24	30	35
Length of Boiler over all ... "	9	11	11½	11	11½	13	13½	14½	16½
Weight of Boiler and Britchen, about	2350	2950	3200	3550	3800	4600	5450	6300	7200
Weight of Boiler Fixtures, about	450	450	500	600	800	1050	1150	1500	1500
Weight of Boiler and Fixtures complete, about	2800	3400	3700	4150	4600	5650	6600	7800	8700
Price complete	$390	$480	$530	$580	$640	$700	$800	$900	$1000

Fixtures comprise Grates, Steam Gauge, Water Gauge fitted with Stand Pipe, Gauge Cocks, Safety Valve, Blow-off Valve. Wheels and Axles extra.

Stationary Engines.

FINISHED IN FIRST-CLASS STYLE THROUGHOUT.

(Send for Engine Catalogue.)

These Slide Valve Stationary Engines I have built, specially to order, for my trade, with square, heavy, substantial frame.

DIMENSIONS AND PRICES.

Horse Power	15	20	25	30	40	50	55	65	75	90
Diameter of Cylinder.....inches	8	9	10	11	12	13	14	15	16	17
Length of Stroke..... "	12	12	14	16	20	20	20	24	24	30
Number of Revolutions.....	150	150	150	140	130	115	110	100	90	80
Diameter of Fly Wheel.....inches	60	62	72	84	96	108	110	120	120	132
Diameter of Band Wheel..... "	24	30	36	36	48	48	60	72	72	72
Width of Belt..... "	9	10	12	12	14	14	16	16	18	20
Price, including Judson governor, pump, heater, and brass mountings complete.....	$300	$350	$450	$550	$650	$700	$800	$900	$1100	$1300
Shipping Weights ..... cwt.	26	31	35	47	68	100	150	160	170	180

Large Band Wheels can be furnished when desired, instead of Fly Wheel and Pulley. The speed above given is not fixed; it can be regulated by means of a Spring Speeder on Governor.

Skids.

Price, about..	2800	3400	3700	4150	4600	5650	6600	7800	8700
Price complete.....	$390	$480	$530	$580	$640	$700	$800	$900	$1000

Fixtures comprise Grates, Steam Gauge, Water Gauge fitted with Stand Pipe, Gauge Cocks, Safety Valve, Blow-off Valve. Wheels and Axles extra.

Automatic Engines.

35 horse (9½x12) high speed, Armington & Sims' pattern.....	$600 00
50 " (11x14) " " " " "	750 00

I carry in stock and can sell at lowest market prices, New Corliss and Wheelock Engines. Prices and description on application.

Marine Engines and Boilers.

These I have manufactured, specially for my customers, to order, in sizes from 4x4 to 20x22, and can furnish for prompt delivery. I append prices for a few of the smaller sizes, but prefer to have specifications of boat for larger sizes.

4x4 with Steel Boiler, and having suitable wheel and shaft and all connections.....	$300 00
6x4 with Steel Boiler, and having suitable wheel and shaft and all connections.....	400 00
6x6 with Steel Boiler, and having suitable wheel and shaft and all connections.....	575 00

Portable Engines and Boilers.

Engines mounted on Boilers and complete with all fittings and connections, including necessary boiler feed and smoke stack. Boiler on skids.

25 Horse Power.....	$950 00
30 " "	1,125 00
35 " "	1,300 00
40 " "	1,450 00
50 " "	1,750 00

tern..... $600 00
" 750 00

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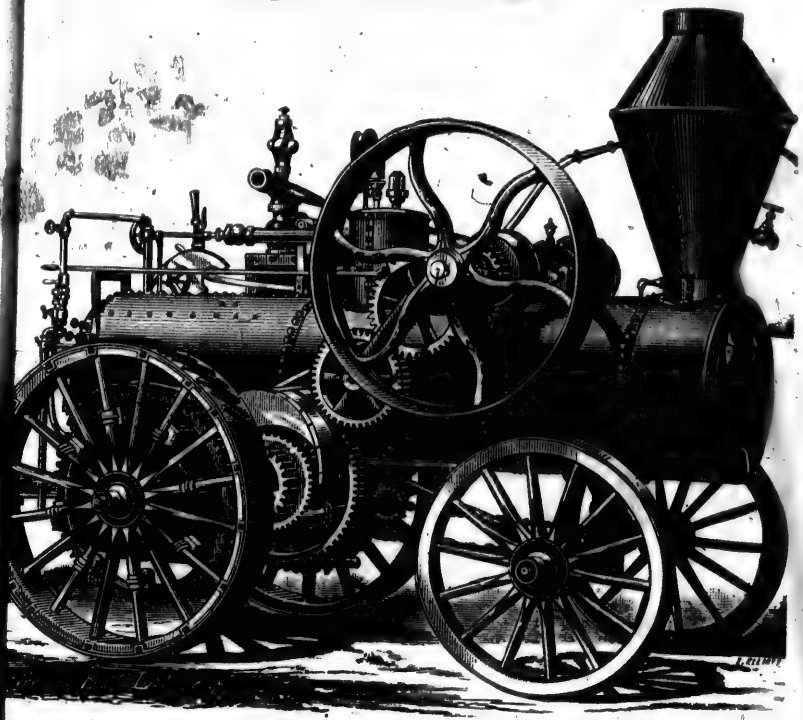
..... 1,300 00
..... 1,450 00
..... 1,750 00

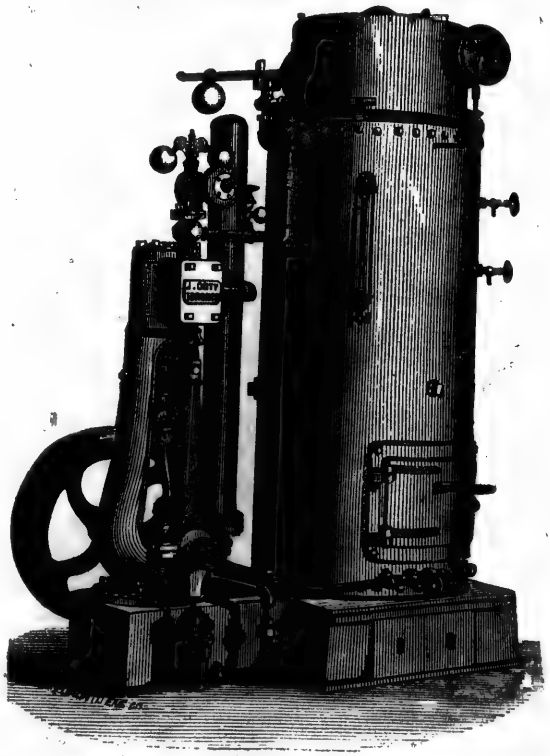
Western Empire Portable and Traction Engines and Boilers.



LOCOMOTIVE PATTERN—WATER BOTTOM.

PORTABLE, 12 horse power, on trucks, with patent spark arrester and smoke stack, 7½x12-in. cylinder	$750 00
Do., 16 horse power, on trucks, with patent spark arrester and smoke stack, 8½x12-in. cylinder	900 00
Do., 20 horse power, on trucks, square bottom fire box, 10x14-in. cylinder	1,200 00
Do., 25 horse power, on trucks, square bottom fire box, 12x14-in cylinder	1,500 00
SINGLE TRACTION, 12 horse power, on trucks	1,050 00
Do., 16 horse power, on trucks	1,250 00
DOUBLE TRACTION, 12 horse power, on trucks	1,150 00
Do., 16 horse power, on trucks	1,300 00

Vertical Engines and Boilers.



PRICE LIST.

No.	Complete Rigs.	Boiler with Fittings.	Engine with Fittings.
1	$278 00	$145 00	$122 00
2	345 00	165 00	148 00
3	395 00	180 00	172 00
4	445 00	200 00	195 00
5	545 00	225 00	225 00
6	610 00	265 00	300 00
7	710 00	325 00	350 00
8	875 00	400 00	400 00

TABLE OF DIMENSIONS, WEIGHTS, ETC.

Doty Vertical Engines and Boilers.

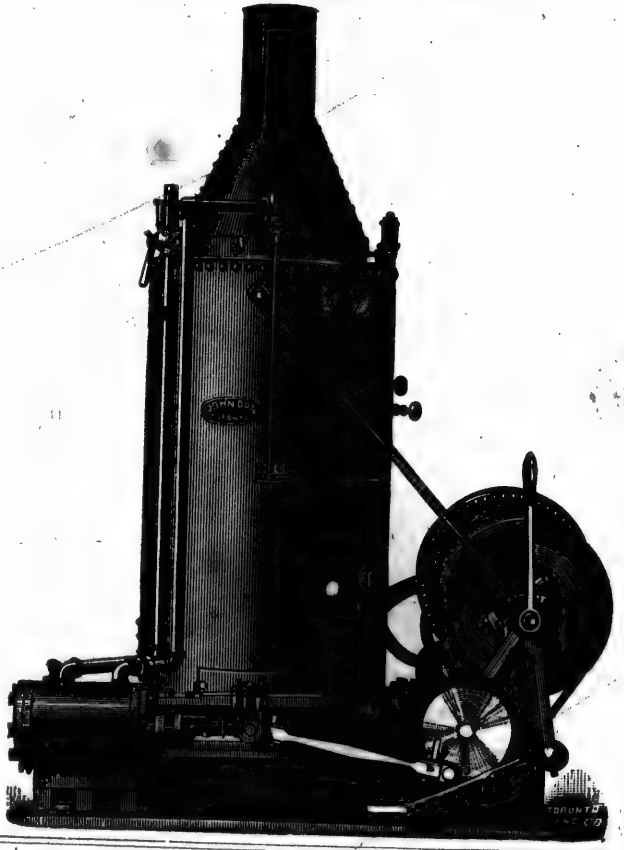
TABLE OF DIMENSIONS, WEIGHTS, ETC.

No.	Engine.						Boiler.						Combined Engine and Boiler.		
	Horse Power.	Diameter of Cylinder.	Stroke.	Diameter of Band Wheel.	Width of Face.	Revolutions per minute.	Diameter of Shell.	Length of Shell.	Number of Tubes.	Size of Tubes.	Length of Tubes.	Square Feet of Heating Surface.	Floor Space Occupied.	Height over all.	Weight.
		In.	In.	In.	In.		In.	In.		In.	In.		In.	In.	lbs.
1	3	4	4	20	3½	200	24	48	24	2	31	51	26 x 48	65	1200
2	4	4	6	24	4½	180	26	60	37	2	40	72	30 x 50	80	1600
3	5	5	6	26	5½	180	30	60	44	2	36	80	34 x 60	80	2000
4	6	5½	7	28	6½	160	30	66	44	2	41	95	34 x 60	87	2700
5	8	6½	8	32	7½	160	34	72	60	2	46	125	36 x 70	93	3300
6	10	7	9	36	8½	150	37	72	70	2	46	162	40 x 72	96	4000
7	13	8	8	40	9½	150	40	84	90	2	52	207	44 x 84	106	4800
8	15	9	9	48	12	140	44	84	....	2	.....	.....	48 x 90	106	5500

Boilers.

	Engine with Fittings.
$122 00	
148 00	
172 00	
196 00	
225 00	
300 00	
350 00	
400 00	

Portable Hoisting Engines.



No.	Single Cylinder.	Double Cylinder.	Price, One Drum.	Price, Two Drums.	Wheels, Extra.	Foot Brake, Extra.
1	6 x 12	.....	$700	$750	$75	$25
2	7 x 12	.....	750	875	75	25
3	.....	6½ x 8	.....	850	75	25
4	.....	6 x 12	875	1,000	100	25
4	.....	7 x 12	950	1,075	100	25

Brick and Tile Machinery.

Baird's Patent.

Brick and Tile combined	$425 00
Brick, single	375 00
Tile, single	375 00
Clay Crusher	225 00

The Baillie Patent Combined Brick and Tile Machine.

Steam Power Double Acting Machine	$400 00
Horse " " " "	325 00
Dies for double 2½-in. Tile	7 00
" " 3-in. Tile	7 00
" single 4 " "	5 00
" " 5 " "	5 50
" " 6 " "	6 00
" " 7 " "	6 50
" " 8 " "	7 00
1 Set Brick Dies, wood lined	3 00
2 Brick Tables	16 00
2 Tile Tables	16 00

The Henry Martin Brick Machine.

No. 1, for steam power	$500 00
No. 1, for horse power	425 00
Tile Attachment, extra	200 00

N.B.—I can always supply either new or second-hand Engines and Boilers, suitable to run a brick yard with one or more machines, and any style that customers may prefer—portable, upright or stationary, and with necessary shafting, belting and fittings, for prompt delivery.

Duplex Steam Pumps.

(Send for Circulars.)

Diameter Steam Cylinder.	Diameter Water Cylinder.	Stroke.	Strokes per minute.	Gallons per minute, both Plungers.	Price.	Sizes of Pipes for short lengths, to be increased as length increases.			
						Steam Pipe.	Exhaust Pipe.	Suction Pipe.	Discharge Pipe.
5¼	3½	5	75 to 150	30 to 60	$160	¾	1¼	2½	1½
6	4	7	75 " 125	50 " 90	200	1	1½	2½	2
7½	4½	10	75 " 100	70 " 140	275	1½	2	4	2½
9	5¼	10	75 " 100	90 " 185	340	1½	2	4	3
10	6	10	50 " 100	125 " 245	400	2	2½	4	3

These Pumps are manufactured to order specially for my trade. I can also furnish larger sizes, and including Mining Pumps and Pumps for special service, for prompt delivery. Write for prices.

The New "Otto" Silent Gas Engine.

SAFETY! CONVENIENCE! ECONOMY!

Started instantly with a match. Always ready to give out its full power at once. Expense ceases when Engine stops. No boiler, no gauges, no coal, no fires, no steam, no pumps, no explosions, no danger, no ashes, no engineer, no extra insurance, no unpleasant heat, almost no attendance. Where power is required at intervals it is the cheapest motor known. Over 10,000 in use.

	Price.
2 Horse Power, complete	$400 00
4 " " "	575 00
7 " " "	765 00
10 " " "	965 00

Duplex Pumps with Boilers.

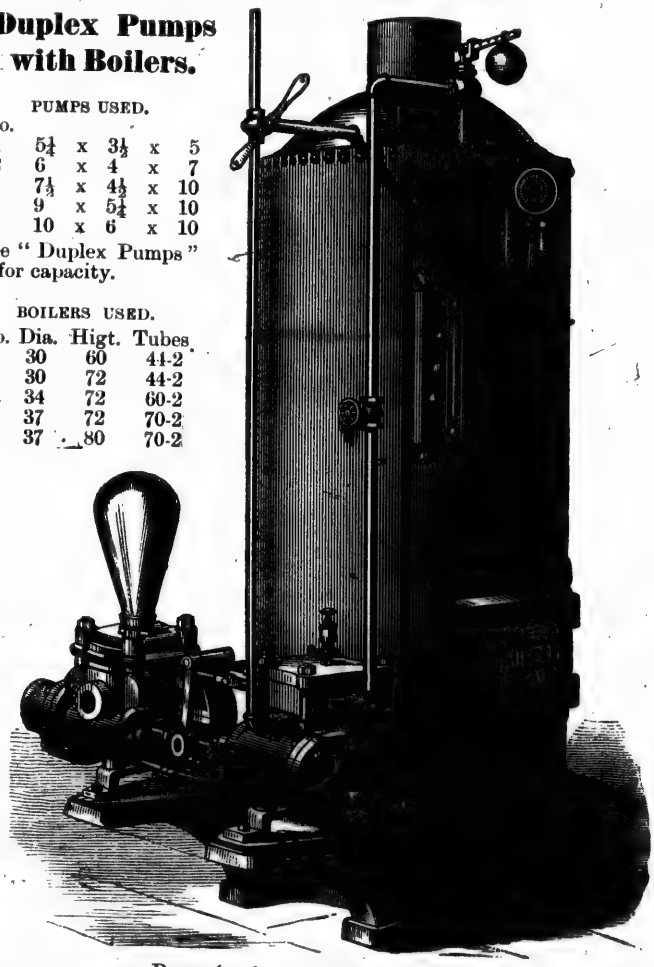
PUMPS USED.

No.					
1	5¼	x	3½	x	5
2	6	x	4	x	7
3	7½	x	4½	x	10
4	9	x	5¼	x	10
5	10	x	6	x	10

See "Duplex Pumps" for capacity.

BOILERS USED.

No.	Dia.	Higt.	Tubes
1	30	60	44-2
2	30	72	44-2
3	34	72	60-2
4	37	72	70-2
5	37	80	70-2



PRICE (on frame as shown in cut).

No. 1, complete	$375 00
" 2, "	450 00
" 3, "	550 00
" 4, "	650 00
" 5, "	750 00

Smith Exhaust Fan.

SMITH EXHAUST FAN—DOUBLE.

No. of Fan.	Price.	No. of Squ're In. Inlet.	No. of Squ're In. Outlet.	Diameter of Blast Wheels	Diameter of Pulley.	Face of Pulley.	No. of Revolutions per Minute.	Weight.
2	$60 00	100	114	11¼ inch.	4 inch.	3¼ inch.	3,500 to 4,000	135
3	80 00	150	170	12¾ "	4 "	4 "	2,800 to 3,200	200
4	100 00	200	234	15¼ "	5 "	4½ "	2,500 to 3,000	300
5	125 00	250	286	16¾ "	6 "	5 "	2,300 to 2,800	400
6	150 00	300	338	18½ "	6½ "	5½ "	2,000 to 2,400	500
7	175 00	350	389	20⅝ "	7 "	5½ "	1,900 to 2,300	600
8	200 00	400	440	22 "	8 "	5½ "	1,800 to 2,200	700
9	250 00	450	493	23½ "	8½ "	6¼ "	1,600 to 1,900	825
10	300 00	500	546	25 "	9 "	6½ "	1,550 to 1,700	950
11	350 00	550	600	26¼ "	10 "	6½ "	1,450 to 1,650	1,100
12	400 00	600	654	27¾ "	12 "	6½ "	1,400 to 1,600	1,350

SMITH EXHAUST FAN—SINGLE.

1	$40 00	50	60	11 inch.	4 inch.	2¼ inch.	3,500 to 4,000	80
2	50 00	75	85	12¾ "	4 "	3¼ "	2,800 to 3,200	100
3	75 00	125	143	16¾ "	5 "	3¼ "	2,300 to 2,800	200
4	100 00	175	195	20⅛ "	6¼ "	5¼ "	1,900 to 2,300	325
5	125 00	225	245	23½ "	7½ "	6¼ "	1,600 to 1,900	450
6	175 00	275	300	26¼ "	8½ "	5¼ "	1,450 to 1,650	550

Larger sizes built to order. In ordering, be particular to state if the Pulley is wanted on the right or left side, as you stand behind the fan looking in the direction the shavings are to be discharged. They are built both right and left hand.

The Smith Cupola, Forge and Pressure Blowers.

Sizes.	No. 1.	No. 2.	No. 3.	No. 4.	No. 5.	No. 6.
Prices, without Counter Shaft	$15 00	$30 00	$45 00	$75 00	$120 00	$180 00
Counter Shafts extra	10 00	12 00	15 00	20 00	30 00	36 00
Speed for 3-oz. Blast	6000	4000	3000	2500	1750	1400
Speed for 6-oz. Blast	7000	5000	4000	3000	2300	1750
Speed for 9-oz. Blast	.....	6000	4700	3500	2750	2150
Speed for 12-oz. Blast	.....	.....	5500	4000	3300	2550
H.P., at 3-oz. Blast	0.1	0.3	0.5	0.8	1.7	2.
H.P., at 6-oz. Blast	0.3	0.5	0.7	1.1	2.1	3.
H.P., at 9-oz. Blast	.....	0.7	1.1	1.7	2.5	4.
H.P., at 12-oz. Blast	.....	.....	1.5	2.5	3.5	5.
Area of Outlets, sq. in	15	30	50	75	125	175
Sizes of Pulleys	2x1	3x1½	4x2¼	5x3¼	6x4½	7x5¼
Height to centre of Shaft	7¾	10½	13½	17¾	22	27
Extreme widths	10¾	14½	20½	27½	32½	38½
Centre to centre of Pulleys	.....	.....	18	24	28½	33¼
Diameter of round outlet pipe	4½	6½	8½	10⅝	13½	16
Weight complete, in pounds	20	50	80	150	250	375

Fan.

2	50 00	75	85	12¾	"	4	inch.	2¼	inch.	3,500 to 4,000	80
3	75 00	125	143	16¾	"	4	"	3¼	"	2,800 to 3,200	100
4	100 00	175	195	20¼	"	5	"	3¼	"	2,300 to 2,800	200
5	125 00	225	245	23½	"	6¼	"	5¼	"	1,900 to 2,300	325
6	175 00	275	300	26¼	"	7½	"	6¼	"	1,600 to 1,900	450
						8½	"	5¼	"	1,450 to 1,650	550

Larger sizes built to order. In ordering, be particular to state if the Pulley is wanted on the right or left side, as you stand behind the fan looking in the direction the shavings are to be discharged. They are built both right and left hand.

Fans and Blowers.

Wing's Disc Fans or Exhausters.

One of the most successful machines of the age. Thou sands in use. Sales constantly increasing. This light run ning power Fan will move fully six times as much air a the centrifugal or usual exhaust fans and blowers, and i invaluable for drying, removing steam, dust, smoke, gases heat, etc., and for general ventilation and cooling.

(*Send for Special Catalogue.*)

	Dia.	Wide.	Pulley.	
No. 1.	12 inches,	8 inches,	2 x 1¼	$30 0
" 2.	18 "	10 "	3 x 1½	40 0
" 3.	24 "	12 "	4 x 2	50 0
" 4.	30 "	13 "	5 x 3	65 0
" 5.	36 "	14 "	6 x 3	85 0
" 6.	42 "	15 "	7 x 4	105 0
" 7.	48 "	16 "	8 x 4	125 0
" 8.	54 "	17 "	9 x 5	160 0
" 9.	60 "	18 "	10 x 6	200 0

SKELETON FANS.

	Dia.	Pulley.	
No. 10.	72 inches,	12 x 7	$175 0
" 11.	84 "	14 x 8	200 0
" 12.	96 "	16 x 10	240 0
" 13.	108 "	20 x 12	280 0
" 14.	120 "	24 x 12	325 0

Prices for extra sizes given on application.

Fans fitted to run horizontally from $6.00 to $15.00.

The Smith Special Exhaust Fan.

FOR REMOVING DUST FROM EMERY WHEELS, GRINDSTONES, FOUNDRY RATTLERS, OR ANY MATERIAL OF THE SAME NATURE.

Number.	Square Inches. Area to Inlet.	Pulley. Dia. of Face.	Speed.	Price.	Weight.
		In. x In.			
0	12	2 x 1⅛	4,000 to 5,000	$15 00	30
1	22	3 x 1¼	3,000 to 4,000	25 00	50
2	40	4 x 2¼	2,500 to 3,500	40 00	80
3	70	5 x 3¼	2,000 to 3,000	60 00	180

For Boston Blower Co.'s Dry Kilns, Fans, Blowers and Exhausters, send for special catalogue, giving as full particulars of your requirements as possible, so as to save correspondence and delay in giving a full quotation.

The Pickering Governor.

This Governor, by its accurate regulation and good workmanship, will commend itself wherever used.

We guarantee to regulate accurately any style or size of engine, and under all circumstances.

For durability in all its parts, simplicity of construction, and economy in fuel, it cannot be equalled.

Having no joints, its action is direct, thereby insuring greater sensitiveness than can be secured with any other Governor.

In ordering Governors be particular to specify the style wanted.

If no special dimensions are given, Governors will be sent according with the table below :

Size of Valve or Steam Pipe.	Portable.	Plain.	Finished.	Speeder, Extra.	Stop Motion and Speeder Extra.	Dia. of Cylinder suitable for.	Extreme Heig't.	Dia. of Base Flange.	Dia. of Pulley advisable.	Rev. per Minute for Fig. 1.
In.						In.	In.	In.	In.	
½	$15	$16	$17	$1 50	.....	2 to 3	14	3½	1	500
¾	16	18	19	1 50	.....	3 to 4	14½	4	1	500
1	18	20	22	2 00	$4	4 to 5	18	4½	2	400
1¼	20	22	23	2 50	4	5 to 6	19	5	2	400
1½	23	26	28	2 50	4	6 to 8	25	6	2½	380
2	27	30	32	3 00	6	8 to 10	26	7	2½	380
2½	36	41	43	3 50	7	10 to 12	30	7½	3	360
3	....	45	52	4 25	8	12 to 15	35	9	4	300
3½	.....	54	62	4 50	9	14 to 17	36	10	4	300
4	.....	64	73	5 00	11	16 to 20	42	11	5	300
4½	.....	74	84	5 50	12	18 to 22	42	11	5	300
5	.....	84	95	6 00	14	20 to 25	48	12	5	250
6	.....	115	130	7 00	16	24 to 30	52	13	6	250
7	.....	140	155	8 00	18	28 to 35	54	14	6	250
8	.....	170	188	9 00	20	32 to 40	56	16	7	250
10	.....	205	235	12 00	25	40 to 50	66	18	8	225

The Pickering Governor.

This Governor, by its a
rate regulation and goo
rkmanship, will com
nd itself wherever used.
We guarantee to regu
e accurately any styl
size of engine, and unde
circumstances.
For durability in al
parts, simplicity of con
uction, and economy i
, it cannot be equalled
Having no joints, it
on is direct, thereby
ring greater sensitive
than can be secured
any other Governor.
In ordering Governors
articular to specify th
wanted.
f no special dimensions
given, Governors wil
nt according with the
below :

suitable for.	Extreme Heig't.	Dia. of Base Flange.	Dia. of Pulley advisable.	Rev. per Minute for Fig. 1.
	In.	In.	In.	
3	14	3½	1	500
4	14½	4	1	500
5	18	4½	2	400
6	19	5	2	400
8	25	6	2½	380
10	26	7	2½	380
12	30	7½	3	360
15	35	9	4	300
17	36	10	4	300
20	42	11	5	300
22	42	11	5	300
25	48	12	5	250
30	52	13	6	250
35	54	14	6	250
40	56	16	7	250
50	66	18	8	225

Wood Yard Machinery.

(Send for Circular with Testimonials.)

HILDRETH'S PATENT

No. 2, Double Splitter $350 00
lb. balance pulley 75 00
Heavy Wood Frame, saw table with swinging cradle, 28-in. saw .....
These are net cash prices.
12-Horse Portable Engines and Boilers, suitable to drive these, second hand, but thoroughly refitted, at from $350.00 to 450 00 each .....

Winnie Hoop Machinery.

(Send for Special Catalogue.)

Two-Saw Hoop Bolter	$110 00
Hoop Re-Sawing Machine	95 00
Hoop Pointing and Scarfing Machine	60 00
Double Hoop Planer	130 00
Hoop Coiling Machine	90 00

"Duplex" Die Stocks,

For Gas, Water and Steam Pipes.

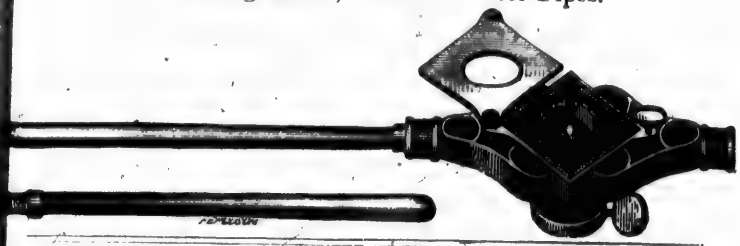
BOTH GUIDES AND DIES INSTANTLY ADJUSTABLE.

LIGHT, STRONG, COMPACT, SIMPLE AND VERY EASILY OPERATED.

	FOR THREADING.								WITHOUT CUT-OFF.	WITH CUT-OFF.	EXTRA DIES.
No. 1	1/8,	1/4,	3/8,	1/2,	3/4,	..	Pipe...		$13 00	$16 00	$1 50
" 2.....	1/4,	3/8,	1/2,	3/4,	1,	1 1/4	" ..		17 00	20 00	1 75
" 3.....	1,	1 1/4,	1 1/2,	2,	..	..	" ...		22 00	25 00	2 00
" 3 1/2....	1/2,	3/4,	1,	1 1/4,	1 1/2,	2	" ...		25 00	28 00	2 00
" 4.....	1 1/2,	2,	2 1/2,	3,	..	..	" ...		40 00	45 00	3 50
" 5.....	2 1/2,	3,	3 1/2,	4,	..	..	" ...		55 00	60 00	4 00

Solid Die Plates.

For cutting Steam, Gas and Water Pipes.



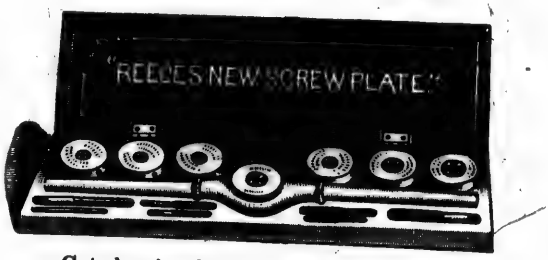
Numbers.	0	1	1½	1¾	2 With Leader Screws.
Dies furnished with each plate	⅛ to ½	¼ to 1	¾, 1 & 1¼	1, 1¼ & 1½	1¼, 1½ & 2
Dimensions of Dies—in.	2 x ½	2½ x ¾	3 x ¾	3 x ¾	4 x ⅞
Die Plates with R. H. Dies complete	$9 50	$15 00	$13 50	$13 50	$20 00
Die Plates without Dies.	3 50	5 00	6 00	6 00	9 50
Extra Dies, R. or L. Hand	1 50	2 00	2 50	2 50	3 50
Extra Bushings, each	25	35	45	45	60
Die Frames, each		30	40	40	50

Pipe Taps and Reamers.

Pipe Taps with Right or Left Hand Threads and Reamers are made of the following sizes and kept in stock. Pipe-hobs, ⅛ to 6-inch diameter, are furnished to order at special prices.

Diameter.	Price.	Diameter.	Price.	Diameter.	Price.
⅛ inch	$1 12	1 inch	$3 12	2½ inch	$10 50
¼ "	1 25	1¼ "	3 75	3 "	15 00
⅜ "	1 50	1½ "	4 62	3½ "	22 00
½ "	1 87	2 "	6 25	"	33 00
¾ "	2 50				

Reece's New Screw Plates.



Cut showing Size C, Complete in Box.

		Price Complete.
Size A, same style.	Cuts $\frac{1}{4}$, $\frac{5}{16}$, $\frac{3}{8}$, $\frac{7}{16}$ and $\frac{1}{2}$ inch.....	$13 00
Size B, same style.	Cuts $\frac{1}{2}$, $\frac{5}{8}$, $\frac{3}{4}$, $\frac{7}{8}$ and 1 inch.....	21 00
Size C, same style.	Cuts $\frac{1}{4}$, $\frac{5}{16}$, $\frac{3}{8}$, $\frac{7}{16}$, $\frac{1}{2}$, $\frac{5}{8}$ and $\frac{3}{4}$ inch.....	20 00
Size D, same style.	Cuts $\frac{3}{8}$, $\frac{7}{16}$, $\frac{1}{2}$, $\frac{5}{8}$, $\frac{3}{4}$, $\frac{7}{8}$ and 1 inch.....	25 00
Size E, same style.	Cuts $\frac{1}{4}$, $\frac{5}{16}$, $\frac{3}{8}$, $\frac{7}{16}$, $\frac{1}{2}$, $\frac{5}{8}$, $\frac{3}{4}$, $\frac{7}{8}$ and 1 inch..	29 00
Size F, stock 53 inches long.	Cuts $1\frac{1}{8}$, $1\frac{1}{4}$, $1\frac{3}{8}$ and $1\frac{1}{2}$ inch...	45 00

Prices of Taps, Dies, etc., for Reece's New Screw Plate.

Diam. Inch.	No of Threads to Inch.	Price of Tap.	Price of Die.	Tap, Die and Collet.
$\frac{1}{4}$	18 and 20	$0 45	$1 25	$2 30
$\frac{5}{16}$	16 and 18	50	1 25	2 35
$\frac{3}{8}$	14 and 16	55	1 50	2 65
$\frac{7}{16}$	14	60	1 50	2 80
$\frac{1}{2}$	12 and 13	70	1 75	3 05
$\frac{9}{16}$	12	80	1 75	3 15
$\frac{5}{8}$	10 and 11	90	1 75	3 25
$\frac{11}{16}$	11	1 05	1 75	3 40
$\frac{3}{4}$	10	1 20	2 00	3 80
$\frac{13}{16}$	10	1 40	2 00	4 00
$\frac{7}{8}$	9	1 60	3 00	5 20
$\frac{15}{16}$	9	1 80	3 00	5 40
1	8	2 00	3 00	5 60
$1\frac{1}{8}$	7	2 25	4 50	8 75
$1\frac{1}{4}$	7	2 60	4 50	9 10
$1\frac{3}{8}$	6	3 00	6 00	11 00
$1\frac{1}{2}$	6	3 50	6 00	11 50

Machinists' Stocks and Dies.

No. 1, with 5 prs. Dies, cutting $\frac{1}{4}$, 20; $\frac{5}{16}$, 18; $\frac{3}{8}$, 16; $\frac{7}{16}$, 14; $\frac{1}{2}$, 12; $7.00.

No. 2, with 4 prs. Dies, cutting $\frac{7}{16}$, 14; $\frac{1}{2}$, 12; $\frac{5}{8}$, 11; $\frac{3}{4}$, 10; $8.00.

No. 3, with 4 prs. Dies, cutting $\frac{5}{8}$, 11; $\frac{3}{4}$, 10; $\frac{7}{8}$, 9; 1, 8; $10.00.

No. 4, with 4 prs. Dies, cutting $\frac{3}{4}$, 10; $\frac{7}{8}$, 9; 1, 8; $1\frac{1}{4}$, 7; $13.00.

No. 5, with 4 prs. Dies, cutting $1\frac{1}{8}$, 7; $1\frac{1}{4}$, 7; $1\frac{3}{8}$, 6; $1\frac{1}{2}$, 6; $25.00.

No. 6, with 5 prs. Dies, cutting $1\frac{1}{2}$, 6; $1\frac{5}{8}$, 5; $1\frac{3}{4}$, 5; $1\frac{7}{8}$, $4\frac{1}{2}$, 2, $4\frac{1}{2}$; $33.00.

The above prices do not include Taps.

In ordering, state whether Plug or Taper Taps are required.

For price of Taps see page 43.

Extra Dies for	No. 1	Plate	.....	$1 00
" "	2	"	.....	1 25
" "	3	"	.....	1 75
" "	4	"	.....	2 00
" "	5	"	.....	3 50
" "	6	"	.....	4 00

Tap Wrenches.

These Wrenches are well finished in every respect, have Steel Dies, and are strong and durable.

No. 1,	8 inches	long,	fitting	Taps	$\frac{1}{8}$ to $\frac{3}{8}$ inch	.....	$1 50
" 2,	12 "	"	"	"	$\frac{1}{4}$ to $\frac{5}{8}$ "	.....	2 00
" 3,	14 "	"	"	"	$\frac{3}{8}$ to $\frac{3}{4}$ "	.....	3 00
" 4,	17 "	"	"	"	$\frac{5}{8}$ to $1\frac{1}{4}$ "	.....	4 00
" 5,	24 "	"	"	"	$\frac{7}{8}$ to $1\frac{1}{2}$ "	.....	5 25

Blacksmiths' Stocks and Dies.

	Price.
No. 6.—Cuts $1\frac{1}{2}$ in to 1 in. Right Hand, 8 threads to inch; cuts $1\frac{1}{2}$ in. to 1 in. Left Hand, 8 threads to in.; 4 Taps and 2 sets of Dies.	$20 00
No. 11.—Cuts $1\frac{1}{4}$ in. to $\frac{5}{8}$ in. Right Hand, 8 and 10 threads to in.; cuts $1\frac{1}{4}$ in. to $\frac{7}{8}$ in., Left Hand, 8 threads to in.; 4 Taps and 3 sets of Dies.	10 00
No. 15.—Cuts $1\frac{1}{4}$ in. to $\frac{1}{2}$ in. Right Hand, 8, 10 and 12 threads to in.; 5 Taps and 3 sets of Dies.	10 00
No. 21.—Cuts 1 in. to $\frac{1}{2}$ in. Right Hand, 9 and 12 threads to in.; cuts 1 in. to $\frac{3}{4}$ in., Left Hand, 9 threads to in.; 4 Taps and 3 sets of Dies.	6 00
No. 23.—Cuts 1 in. to $\frac{3}{8}$ in. Right Hand, 9, 10 and 14 threads to in.; 3 Taps and 3 sets of Dies.	5 00
No. 32.—Cuts $\frac{3}{4}$ in. to $\frac{3}{8}$ in. Right Hand, 10 and 14 threads to in.; cuts $\frac{3}{4}$ in. to $\frac{3}{8}$ in. Left Hand, 10 and 14 threads to in.; 4 Taps and 4 sets of Dies.	5 00
No. 33.—Cuts $\frac{3}{4}$ in. to $\frac{1}{2}$ in. Right Hand, 10 threads to in.; cuts $\frac{3}{4}$ in. to $\frac{1}{2}$ in. Left Hand, 10 threads to in.; 2 Taps and 2 sets of Dies.	4 00
No. 34.—Cuts $\frac{3}{4}$ in. to $\frac{5}{16}$ in. Right Hand, 10, 12 and 16 threads to in.; 3 Taps and 3 sets of Dies.	4 50
No. 34A.—Cuts $\frac{3}{4}$ of an in. to $\frac{5}{16}$ in. Right Hand, 10, 12 and 14 threads to in.; 3 Taps and 3 sets of Dies.	4 50
No. 34B.—Cuts $\frac{3}{4}$ in. to $\frac{5}{16}$ in. Right Hand, 12, 14 and 16 threads to in.; 3 Taps and 3 sets of Dies.	4 50
No. 35.—Cuts $\frac{3}{4}$ in. to $\frac{3}{8}$ in. Right Hand, 10 and 14 threads to in.; 2 Taps and 2 sets of Dies.	4 00
No. 37.—Cuts $\frac{5}{8}$ in. to $\frac{3}{16}$ in. Right Hand, 14, 18 and 22 threads to in.; 6 Taps and 3 sets of Dies.	4 25
No. 37A.—Cuts $\frac{5}{8}$ in. to $\frac{3}{16}$ in. Right Hand, 12, 14 and 16 threads to in.; 6 Taps and 3 sets of Dies.	4 25
No. 37B.—Cuts $\frac{5}{8}$ in. to $\frac{3}{16}$ in. Right Hand, 14, 16 and 18 threads to in.; 6 Taps and 3 sets of Dies.	4 25
No. 38.—Cuts $\frac{5}{8}$ in. to $\frac{5}{16}$ in. Right Hand, 12 and 18 threads to in.; cuts $\frac{5}{8}$ in. to $\frac{1}{16}$ in. Left Hand, 12 threads to in.; 6 Taps and 3 sets of Dies.	4 50
No. 41.—Cuts $\frac{1}{2}$ in. to $\frac{1}{8}$ in. Right Hand, 16, 20 and 26 threads to in.; 6 Taps and 3 sets of Dies.	3 25
No. 41A.—Cuts $\frac{1}{2}$ in. to $\frac{1}{8}$ in. Right Hand, 14, 16 and 18 threads to in.; 6 Taps and 3 sets of Dies.	3 25
No. 41B.—Cuts $\frac{1}{2}$ in to $\frac{1}{8}$ in. Right Hand, 16, 18 and 20 threads to in.; 6 Taps and 3 sets of Dies.	3 25
No. 42.—Cuts $\frac{1}{2}$ in. to $\frac{3}{16}$ in. Right Hand, 14 and 20 threads to in.; cuts $\frac{1}{2}$ in. to $\frac{3}{16}$ in. Left Hand, 14 threads to in.; 6 Taps and 3 sets of Dies.	3 25
No. 53.—Cuts $\frac{3}{16}$ in. to $\frac{1}{16}$ in. Right Hand, 16, 20, 24 and 32 threads to in.; 4 Taps and 4 sets of Dies.	3 50
	2 75

Price.

Hand, 8 threads
1 in. Left Hand,
nd 2 sets of Dies. $20 00
ght Hand, 8 and
1¼ in. to ⅞ in.,
in.; 4 Taps and
..... 10 00
ght Hand, 8, 10
aps and 3 sets of
..... 10 00
nt Hand, 9 and
n. to ¾ in., Left
Taps and 3 sets
..... 6 00
t Hand, 9, 10
ps and 3 sets of
..... 5 00
t Hand, 10 and
n. to ⅜ in. Left
to in.; 4 Taps
..... 5 00
ight Hand, 10
to ½ in. Left
2 Taps and 2
..... 4 00
nt Hand, 10, 12
ps and 3 sets
..... 4 50
n. Right Hand,
n.; 3 Taps and
..... 4 50
12, 14 and 16
..... 4 50
l 14 threads to
..... 4 00
nd 22 threads
..... 4 25
2, 14 and 16
..... 4 25
4, 16 and 18
..... 4 25
d 18 threads
hreads to in.;
..... 4 50
nd 26 threads
..... 3 25
14, 16 and 18
..... 3 25
, 18 and 20
..... 3 25
l 20 threads
reads to in.;
..... 3 50
0, 24 and 32
..... 2 75

Blacksmiths' Stocks and Dies.

Price.

No. 1.—Cuts 2 in. to 1 in. Right Hand, 4½ and 7 threads to in.; cuts 2 in. to 1 in. Left Hand, 4½ and 7 threads to in.; 8 Taps and 4 pairs of Dies..... $60 00

No. 2.—Cuts 2 in. to ⅞ in. Right Hand, 4½, 6, 7 and 8 threads to in.; 8 Taps and 4 pairs of Dies..... 60 00

No. 3.—Cuts 1¾ in. to ⅞ in. Right Hand, 6 and 8 threads to in.; cuts 1¾ in. to ⅞ in Left Hand, 6 and 8 threads to in.; 8 Taps and 4 pairs of Dies..... 45 00

No 4.—Cuts 1¾ in. to ¾ in. Right Hand, 6, 7, 8 and 9 threads to in.; 8 Taps and 4 pairs of Dies..... 45 00

No. 5.—Cuts 1½ in. to ¾ in. Right Hand, 8 and 9 threads to in.; cuts 1½ in. to ¾ in. Left Hand, 8 and 9 threads to in.; 8 Taps and 4 pairs of Dies..... 35 00

No. 5½.—Cuts 1½ in to ¾ in. Right Hand, 6, 7, 8 and 9 threads to in.; 8 Taps and 4 pairs of Dies..... 35 00

No. 7.—Cuts 1¼ in. to ⅝ in. Right Hand, 8 and 10 threads to in.; cuts 1¼ in. to ⅞ in. Left Hand, 8 threads to in.; 6 Taps and 3 pairs of Dies..... 12 00

No. 9.—Cut 1¼ in. to ½ in. Right Hand, 8, 10 and 12 threads to in.; 6 Taps and 3 pairs of Dies 12 00

No. 17.—Cuts 1 in. to ½ in. Right Hand, 9 and 12 threads to in.; cuts 1 in. to ¾ in. Left Hand, 9 threads to in.; 6 Taps and 3 pairs of Dies..... 9 00

No. 19.—Cuts 1 in. to ⅜ in. Right Hand, 9, 12 and 14 threads to in.; 6 Taps and 3 pairs of Dies..... 9 00

No. 25.—Cuts ¾ in. to ⅜ in. Right Hand, 10 and 16 threads to in.; cuts ¾ in. to ½ in. Left Hand, 10 threads to in.; 6 Taps and 3 pairs of Dies..... 6 50

No. 27.—Cuts ¾ in. to ⅜ in. Right Hand, 10, 12 and 16 threads to in.; 6 Taps and 3 pairs of Dies..... 6 50

No. 45.—Cuts ⅝ in. to $\frac{5}{16}$ in. Right Hand, 12 and 16 threads to in.; cuts ⅝ in. to $\frac{7}{16}$ in. Left Hand, 12 threads to in.; 6 Taps and 3 pairs of Dies 5 50

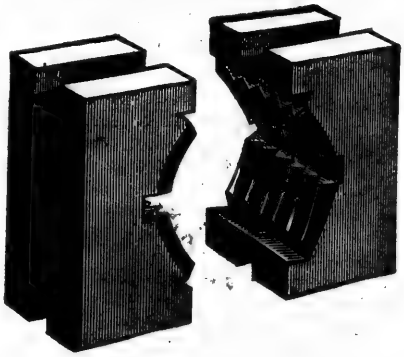
No. 47.—Cuts ⅝ in. to ¼ in. Right Hand, 12, 14 and 18 threads to in.; 6 Taps and 3 pairs of Dies..... 5 50

No. 49.—Cuts ½ in. to ¼ in. Right Hand, 14 and 18 threads to in.; cuts ½ in. to $\frac{5}{16}$ in. Left Hand, 14 threads to in.; 6 Taps and 3 pairs of Dies..... 4 50

No. 51.—Cuts ½ in. to $\frac{3}{16}$ in. Right Hand, 14, 18 and 22 threads to in.; 6 Taps and 3 pairs of Dies..... 4 50

No. 60.—Cuts ¾ in. to ⅛ in. Right Hand, 10, 12, 14 and 18 threads to in.; 6 Taps and 4 pairs of Dies..... 6 50

Prices of Extra Dies.



For No.	1 or 2	Stock..	$12 00	For No.	33	Stock,	$1 50
"	3 " 4	"	10 00	"	34, 34A, 34B,	"	2 00
"	5 " 5½	"	8 00	"	35, 37, 38, 41, 42, 41A, 41B, 37A, 37B,	Stock	1 50
"	6 "	"	6 00				
"	7 " 9	"	3 50	"	45 or 47	Stock.	2 25
"	11 " 15	"	3 00	"	49 " 51	"	2 00
"	17 " 19	"	2 50	"	53	"	1 50
"	21 " 23	"	2 00	"	60	" ...	3 00
"	25, 27 or 32	"	2 25				

Blacksmiths' Extra Taper and Plug Taps.

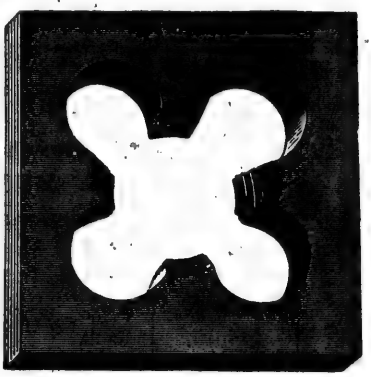
SIZE.	NUMBER OF THREADS TO INCH,				PRICE EACH.
	Right.	Taps in each box	Left.	Taps in each box	
1/8 inch	30 and 32	6	.....	.....	$0 30
3/16 "	24 and 26	6	.....	.....	0 30
1/4 "	18, 20, 22, 24 and 26	6	.....	.....	0 30
5/16 "	16, 18, 20 and 22	6	.....	.....	0 30
3/8 "	12, 14, 16 and 18	6	.....	.....	0 35
7/16 "	12, 14, 16 and 18	6	14	6	0 40
1/2 "	12, 14 and 16	6	12 and 14	4	0 40
9/16 "	12 and 14	6	12	4	0 50
5/8 "	10, 11, 12 and 14	6	10 and 12	4	0 50
3/4 "	8, 9, 10 and 12	6	10 and 12	4	0 65
7/8 "	9 and 10	4	9	4	0 90
1 "	7, 8 and 9	2	8 and 9	2	1 25
1¼ "	6, 7, 8 and 9	2	8 and 9	2	1 75
1½ "	6, 7 and 8	2	6, 7 and 8	2	3 00

Stock, $1 50
34B, " 2 00
, 41, 42, 41A,
, 37B, Stock 1 50
Stock. 2 25
" 2 00
" 1 50
" 3 00

ug Taps.

ps in h box	PRICE EACH.
.....	$0 30
.....	0 30
.....	0 30
.....	0 30
.....	0 35
6	0 40
4	0 40
4	0 50
4	0 50
4	0 65
4	0 90
2	1 25
2	1 75
2	3 00

Machine or Solid Bolt Dies.



DIAMETER.	NO. THREADS TO INCH.	SIZE.	THICKNESS.	PRICE.	DIAMETER.	NO. THREADS TO INCH.	SIZE.	THICKNESS.	PRICE.
1/4	20	2 1/2 x 2 1/2	1/2 in.	$1 80	1 1/8	7	2 1/2 x 2 1/2	1 in.	$3 00
5/16	18	"	1/2	1 80	1 1/4	7	"	1	3 30
3/8	16	"	1/2	1 80	1 3/8	6	"	1	3 60
7/16	14	"	1/2	1 80	1 1/2	6	3 x 3	1	3 90
1/2	12	"	3/4	1 80	1 5/8	5 1/2	"	1	4 20
5/8	11	"	3/4	2 00	1 3/4	5	"	1 1/4	5 40
3/4	10	"	3/4	2 25	1 7/8	5	3 1/2 x 3 1/2	1 1/2	6 50
7/8	9	"	3/4	2 40	2	4 1/2	3 3/4 x 3 3/4	2	7 50
1	8	"	1	2 70					

Brown's Adjustable Pipe Tongs.

Numbers	1	1 1/2	2	3	4	5	6
Takes Pipe from.	1/4 to 3/4	3/8 to 1	1/2 to 1 1/4	1 to 2	1 1/2 to 3	2 1/2 to 4	3 to 5
Price, each.....	$1 50	$1 75	$2 00	$2 75	$4 50	$9 00	$18 00

Machine or Nut Taps.

V AND FRANKLIN INSTITUTE SHAPE OF THREAD.

LONG SHANK.--RELIEVED.

Unless advised to the contrary, we fill orders with V Threads.

Diameter.	No. Threads to inch.	Price Each.	Diameter.	No. Threads to inch.	Price Each.
$\frac{1}{4}$	16, 18 and 20	$0 60	$1\frac{7}{8}$	$4\frac{1}{2}$ and 5	$6 80
$\frac{5}{16}$	16 and 18	70	2	$4\frac{1}{2}$	7 70
$\frac{3}{8}$	14 and 16	80	$2\frac{1}{8}$	$4\frac{1}{2}$	9 00
$\frac{7}{16}$	12, 14 and 16	90	$2\frac{1}{4}$	$4\frac{1}{2}$	10 20
$\frac{1}{2}$	12, 13 and 14	1 00	$2\frac{3}{8}$	$4\frac{1}{2}$	11 50
$\frac{9}{16}$	12 and 14	1 15	$2\frac{1}{2}$	4	12 50
$\frac{5}{8}$	10, 11 and 12	1 30	$2\frac{5}{8}$	4	14 00
$\frac{11}{16}$	11 and 12	1 45	$2\frac{3}{4}$	4	15 00
$\frac{3}{4}$	10	1 60	$2\frac{7}{8}$	4	16 50
$\frac{13}{16}$	10	1 80	3	$3\frac{1}{2}$	18 00
$\frac{7}{8}$	9 and 10	2 10	$3\frac{1}{8}$	..	19 75
$\frac{15}{16}$	9	2 40	$3\frac{1}{4}$	$3\frac{1}{2}$	21 50
1	8	2 80	$3\frac{3}{8}$	..	23 00
$1\frac{1}{8}$	7 and 8	3 20	$3\frac{1}{2}$	$3\frac{1}{4}$	25 00
$1\frac{1}{4}$	7 and 8	3 70	$3\frac{5}{8}$	..	27 00
$1\frac{3}{8}$	6	4 20	$3\frac{3}{4}$	3	29 50
$1\frac{1}{2}$	6	4 70	$3\frac{7}{8}$	..	31 00
$1\frac{5}{8}$	5 and $5\frac{1}{2}$	5 30	4	3	33 50
$1\frac{3}{4}$	5	6 00			

We keep in stock the above, and $\frac{1}{32}$ over size for rough iron.

In ordering always state exact diameter and thread wanted.

When exact duplicates are wanted, special orders should always be accompanied by a stub with a nut fitting same.

Machinists' Hand Taps.

TAPER.

PLUG.

BOTTOMING.

V and Franklin Institute Shape of Thread.

Unless advised to the contrary, we fill orders with the **V** Threads.

	Diameter.	No. Threads to Inch.	Price Each.	Price per
3 Taps to Set—Taper, Plug and Bottoming.	$\frac{1}{4}$	16, 18 and 20	$0 45	$1 35
	$\frac{5}{16}$	16 and 18	50	1 50
	$\frac{3}{8}$	14, 16 and 18	55	1 65
	$\frac{7}{16}$	14 and 16	60	1 80
	$\frac{1}{2}$	12, 13 and 14	70	2 10
	$\frac{9}{16}$	12 and 14	80	2 40
	$\frac{5}{8}$	10, 11 and 12	90	2 70
	$\frac{11}{16}$	11 and 12	1 05	3 15
	$\frac{3}{4}$	10 and 12	1 20	3 60
	$\frac{13}{16}$	10	1 40	4 20
	$\frac{7}{8}$	9 and 10	1 60	4 80
	$\frac{15}{16}$	9	1 80	5 40
	1	8	2 00	6 00
	$1\frac{1}{8}$	7 and 8	2 25	6 75
	$1\frac{1}{4}$	7	2 60	7 80
	$1\frac{3}{8}$	6	3 00	9 00
	$1\frac{1}{2}$	6	3 50	10 50
	$1\frac{5}{8}$	5 and $5\frac{1}{2}$	4 20	12 60
	$1\frac{3}{4}$	5	5 00	15 00
	$1\frac{7}{8}$	$4\frac{1}{2}$ and 5	5 80	17 40
	2	$4\frac{1}{2}$	6 70	20 10

Short Hob Taps.

(Add 25 per cent. for list of long Hob or Master Taps.)

DIAMETER.	NO. THREADS TO INCH.	PRICE EACH.
$\frac{1}{4}$	16, 18 and 20	$0 60
$\frac{5}{16}$	16 and 18	70
$\frac{3}{8}$	14 and 16	80
$\frac{7}{16}$	12, 14 and 16	90
$\frac{1}{2}$	12, 13 and 14	1 00
$\frac{9}{16}$	12 and 14	1 15
$\frac{5}{8}$	10, 11 and 12	1 30
$\frac{11}{16}$	11 and 12	1 45
$\frac{3}{4}$	10	1 60
$\frac{13}{16}$	10	1 80
$\frac{7}{8}$	9 and 10	2 10
$\frac{15}{16}$	9	2 40
1	8	2 80
$1\frac{1}{8}$	7 and 8	3 20
$1\frac{1}{4}$	7 and 8	3 70
$1\frac{3}{8}$	6	4 20
$1\frac{1}{2}$	6	4 70
$1\frac{5}{8}$	5 and $5\frac{1}{2}$	5 30
$1\frac{3}{4}$	5	6 00
$1\frac{7}{8}$	$4\frac{1}{2}$ and 5	6 80
2	$4\frac{1}{2}$	7 70

All orders are filled with Hobs exact diameter of order, with sharp V thread unless otherwise stated.

If wanted for cutting Screw Plate Dies, we make them considerably over size, but call the Hobs by the size of the bolt to be cut, and designate them as "Screw Plate Die Hobs."

Hob or Master Taps.)

NCH.	PRICE EACH.
	$0 60
	70
	80
	90
	1 00
	1 15
	1 30
	1 45
	1 60
	1 80
	2 10
	2 40
	2 80
	3 20
	3 70
	4 20
	4 70
	5 30
	6 00
	6 80
	7 70

meter of order,
l.

we make them
the size of the
rew Plate Die

Machine Screw Taps.

To avoid annoyances and misunderstandings which are constantly occurring, I wish to state here, that Standard Machine Screws are not made in fractional sizes, as regards diameter. They are made to the Standard Screw Gauge, which is as arbitrary as the Standard Wire Gauge. Thus, when $\frac{1}{4}$ inch are ordered we send No. 14—20 threads to the inch—and when 5-16 we send No. 20—16 threads to the inch—neither of these Screws fit Standard Taps, as the No. 14 is a trifle smaller than $\frac{1}{4}$ inch, and the No. 20 is not only larger than 5-16 but is 16 threads to the inch, while the regular standard is 18 threads. Those who use these Screws will find it a great deal cheaper in the end to buy Standard Machine Screw Taps, as they can always order Screws by the number marked on the Tap, and be sure of getting them the right diameter and thread, and get them *at once*. The odd sizes (those differing from the Standard) in this list, are used generally for repair work and special purposes.

No.	Diameter about	Standard threads to the inch.	Size of Drill to Drill for Tapping.	We also carry taps of the following threads.	Price per Dozen	Price Each.
2	$\frac{5}{32}$ S	56	No. 53	48, 64	$4 00	$0 35
3	$\frac{7}{64}$ S	48	" 48	40, 56	4 00	35
4	$\frac{7}{64}$ F	36	" 43	32, 40	4 00	35
5	$\frac{1}{8}$ F	36	" 42	30, 32, 40	4 00	35
6	$\frac{9}{64}$	32	" 33	30, 36, 40	4 00	35
7	$\frac{5}{32}$	32	" 31	28, 30	4 00	35
8	$\frac{11}{64}$	32	" 28	24, 3	4 00	35
9	$\frac{3}{16}$ S	30	" 26	24, 28, 32	4 00	35
10	$\frac{3}{16}$ F	24	" 24	28, 30, 32	4 00	35
11	$\frac{13}{64}$	24	" 21	28, 30	4 00	35
12	$\frac{7}{32}$	24	" 17	20, 22	4 00	35
13	$\frac{15}{64}$	22	" 12	20, 24	4 40	38
14	$\frac{1}{4}$ S	20	" 6	22, 24	4 40	38
15	$\frac{1}{4}$ F	20	" 5	18, 22, 24	4 40	38
16	$\frac{17}{64}$	18	" 3	16, 20, 24	4 40	38
17	$\frac{9}{32}$	18	" 2	16, 20	4 40	38
18	$\frac{19}{64}$	18	$\frac{15}{64}$ inch.	16, 20	4 40	38
19	$\frac{5}{16}$	18	$\frac{1}{4}$ "	16, 20	4 40	38
20	$\frac{21}{64}$ F	16	$\frac{17}{64}$ "	18, 20	5 30	45
22	$\frac{11}{32}$	16	$\frac{9}{32}$ "	18	5 30	45
24	$\frac{3}{8}$	16	$\frac{19}{64}$ "	14, 18	5 30	45
26	$\frac{25}{64}$	16	$\frac{5}{16}$ "	14	6 30	53
28	$\frac{13}{32}$	14	$\frac{21}{64}$ "	16	6 30	53
30	$\frac{7}{16}$	14	$\frac{11}{32}$ "	16	6 30	53

The price per dozen is for orders of not less than one-half dozen of a size. Special sizes and threads made to order at short notice, and subject to special prices.

Machinists' Screw Plates.

	Price each.
No. 00.—6 inches long, 4 sets Dies and 4 Taps, cutting 1-16th, 64; 3-32nds, 56; 7-64ths, 48; ⅛, 40	$3 50
No. 00A.—6 inches long, 3 sets Dies and 4 Taps, cutting 4, 36; 6, 32; 8, 32; 10, 24	3 50
No. 0.—7½ inches long, 4 sets Dies and 4 Taps, cutting 7-64ths, 48; ⅛, 40; 3-16ths, 32; ¼, 24	4 00
No. 0A.—7½ inches long, 3 sets Dies and 4 Taps, cutting 10, 24; 12, 24; 14, 20; 16, 18	4 50
No. 1.—7 inches long, 3 sets Dies and 6 Taps, cutting 4, 40; 6, 40; 4, 36; 6, 36; 8, 32; 10, 32	6 25
No. 2.—8 inches long, 3 sets Dies and 6 Taps, cutting 6, 32; 8, 32; 10, 24; 12, 24; 14, 20; 16, 20	6 25
No. 1½.—9 inches long, 4 sets Dies and 4 Taps, cutting 6, 32; 8, 30; 10, 24; 14, 20	4 50
No. 1½A.—9 inches long, 3 sets Dies and 4 Taps, cutting 14, 20; 16, 18; 18, 18; 20, 16	4 75
Diamond A Plate, with Tap Wrench. Plate 5 in. long; Tap Wrench 5 in. long; 6 Taps and 6 Dies, cutting 4, 36; 6, 32; 8, 32; 10, 24; 12, 24; 14, 20	9 00
Diamond B Plate, with Tap Wrench. Plate 5 in. long; Tap Wrench 5 in. long; 5 Taps and 5 Dies, cutting 4, 36; 6, 32; 8, 32; 10, 24; 12, 24	8 00
Diamond C Plate, with Tap Wrench. Plate 5 in. long; Tap Wrench 5 in. long; 4 Taps and 4 Dies, cutting 6, 32; 8, 32; 10, 24; 12, 24	7 00

The Diamond Plates are put up in nice wood cases, and are well made in every respect. The Dies are made in one piece, from the best tool steel, and are cut open on one side, to allow for adjustment.

We make both Dies and Taps to American Screw Company's Standard Machine Screws.

Taper Shank Drills.

(List No. 106.)

Diam.	Price Each.	Len'h	Sock't	Diam.	Price Each	Len'h	Socket
1/4	$0 60	6 1/8	No. 1, $1.20	1 9/32	$4 65	14 1/8	No. 4, $4.00
9/32	65	6 1/4		1 5/16	4 80	14 1/4	
5/16	70	6 3/8		1 11/32	5 00	14 3/8	
11/32	75	6 1/2		1 3/8	5 20	14 1/2	
3/8	80	6 3/4		1 13/32	5 40	14 5/8	
13/32	85	7		1 7/16	5 60	14 3/4	
7/16	90	7 1/4		1 15/32	5 80	14 7/8	
15/32	95	7 1/2		1 1/2	6 00	15	
1/2	1 00	7 3/4		1 17/32	6 30	15 1/8	
17/32	1 10	8		1 9/16	6 60	15 1/4	
9/16	1 20	8 1/4		1 19/32	6 90	15 3/8	
19/32	1 30	8 1/2		1 5/8	7 20	15 1/2	
5/8	1 40	8 3/4	No. 2, $1.80	1 21/32	7 50	15 5/8	
21/32	1 50	9		1 11/16	7 80	15 3/4	
11/16	1 60	9 1/4		1 23/32	8 10	15 7/8	
23/32	1 70	9 1/2		1 3/4	8 40	16	
3/4	1 85	9 3/4		1 25/32	8 60	16 1/8	
25/32	2 00	9 7/8		1 13/16	8 80	16 1/4	
13/16	2 15	10		1 27/32	9 00	16 3/8	
27/32	2 30	10 1/4		1 7/8	9 20	16 1/2	
7/8	2 45	10 1/2		1 29/32	9 35	16 5/8	
29/32	2 60	10 5/8		1 15/16	9 50	16 3/4	
15/16	2 75	10 3/4	No. 3, $2.50	1 31/32	9 65	16 7/8	
31/32	2 90	10 7/8		2	9 80	16 1/2	
1	3 00	11		2 1/32	10 20	16 1/2	No. 5, $7.50
1 1/32	3 20	11 1/8		2 1/16	10 60	17	
1 1/16	3 40	11 1/4		2 1/8	11 20	17	
1 3/32	3 60	11 1/2		2 3/16	12 00	17	
1 1/8	3 80	11 3/4		2 1/4	12 80	17 1/2	
1 5/32	4 00	11 7/8		2 5/16	13 60	17 1/2	
1 3/16	4 20	12		2 3/8	14 40	18	
1 7/32	4 40	12 1/8		2 7/16	15 00	18 1/2	
1 1/4	4 50	12 1/2		2 1/2	15 60	19	

Drills of any size or length, with Taper or Straight Shanks, made to order, and to fit any socket desired.

In ordering special Tapers give the length of Shank and diameter at each end of it.

Straight Shank Drills same length as Taper Shanks at Taper Shank prices.

Straight Shank Drills.

(List No. 108.)

Diameter.	Price per Dozen.	Price Each.	Length in Inches.
1/16	$1 00	$0 09	2 1/2
5/64	1 10	10	2 5/8
3/32	1 20	11	2 3/4
7/64	1 30	12	2 7/8
1/8	1 45	13	3
9/64	1 60	15	3 1/8
5/32	1 80	16	3 1/4
11/64	2 00	18	3 3/8
3/16	2 20	20	3 1/2
13/64	2 40	21	3 5/8
7/32	2 65	23	3 3/4
15/64	2 90	26	3 7/8
1/4	3 15	28	4
17/64	3 40	30	4 1/8
9/32	3 65	32	4 1/4
19/64	3 90	35	4 3/8
5/16	4 20	37	4 1/2
21/64	4 50	40	4 5/8
11/32	4 80	42	4 3/4
23/64	5 10	45	4 7/8
3/8	5 40	48	5
25/64	5 70	50	5 1/8
13/32	6 00	53	5 1/4
27/64	6 40	55	5 3/8
7/16	6 80	59	5 1/2
29/64	7 20	63	5 5/8
15/32	7 50	65	5 3/4
31/64	7 75	67	5 7/8
1/2	8 00	70	6

Straight Shanks. Taper Shank Length.

Diameter.	Price Each.	Length.	Diameter.	Price Each.	Length.
1/2	$1 00	7 3/4	39/32	$2 60	10 5/8
17/32	1 10	8	1 5/16	2 75	10 3/4
9/16	1 20	8 1/4	41/32	2 90	10 7/8
19/32	1 30	8 1/2	1	3 00	11
5/8	1 40	8 3/4	1 1/32	3 20	11 1/8
21/32	1 50	9	1 1/16	3 40	11 1/4
11/16	1 60	9 1/4	1 3/32	3 60	11 1/2
23/32	1 70	9 1/2	1 1/8	3 80	11 3/4
3/4	1 85	9 3/4	1 5/32	4 00	11 7/8
25/32	2 00	9 7/8	1 3/16	4 20	12
13/16	2 15	10	1 7/32	4 40	12 1/8
27/32	2 30	10 1/4	1 1/4	4 50	12 1/2
7/8	2 45	10 1/2			

Drills.

.)

Each.	Length in Inches.
09	2½
10	2⅝
11	2¾
12	2⅞
13	3
15	3⅛
16	3¼
18	3⅜
20	3½
21	3⅝
23	3¾
26	3⅞
28	4
30	4⅛
32	4¼
35	4⅜
37	4½
40	4⅝
42	4¾
45	4⅞
48	5
50	5⅛
53	5¼
55	5⅜
59	5½
63	5⅝
65	5¾
67	5⅞
70	6

hank Length.

Price Each.	Length.
$2 60	10⅝
2 75	10¾
2 90	10⅞
3 00	11
3 20	11⅛
3 40	11¼
3 60	11½
3 80	11¾
4 00	11⅞
4 20	12
4 40	12⅛
4 50	12½

Bit Stock Drills for Metal or Wood.

(List No. 114.)

Diameter.	Price per Dozen.	Price Each.	Diameter.	Price per Dozen.	Price Each.
2/32	$1 50	$0 14	14/32	$ 8 80	$0 75
3/32	1 65	16	15/32	9 60	82
4/32	2 10	20	16/32	10 30	8
5/32	2 60	24	17/32	11 00	92
6/32	3 10	29	9/16	.....	1 20
7/32	3 60	33	5/8	.....	1 35
8/32	4 10	38	11/16	.....	1 50
9/32	4 70	43	3/4	.....	1 65
10/32	5 40	48	13/16	.....	1 80
11/32	6 30	54	7/8	.....	1 95
12/32	7 20	62	15/16	.....	2 15
13/32	8 00	68	1	.....	2 35

☞ These Drills are made of the finest Steel, and are tempered to drill steel, iron or wood. They will bore wood without splitting it.

Straight Shank Machine Bits, for Wood.

(List No. 122.)

Diamet'r	Price Each.	Length.	Diamet'r	Price Each.	Length.
1/8	$0 20	3 in.	13/32	$0 70	5¼ in.
5/32	25	3¼ "	7/16	75	5½ "
3/16	30	3½ "	15/32	80	5¾ "
7/32	35	3¾ "	1/2	85	6 "
1/4	40	4 "	17/32	95	6¼ "
9/32	45	4¼ "	9/16	1 00	6½ "
5/16	50	4½ "	5/8	1 15	6¾ "
11/32	55	4¾ "	11/16	1 35	7 "
3/8	65	5 "	3/4	1 65	7½ "

Price per set, with Bit Point, 1/8 in. to 1/2 in., mounted, varying by 32nds, $7.00.

Square Shank Ratchet Drills.

(List No. 111.)

Diamet'r	Price.	Length.	Diamet'r	Price.	Length.
$\frac{1}{4}$	$1 00	5 in.	$\frac{9}{16}$	$1 35	$6\frac{1}{2}$ in.
$\frac{9}{32}$	1 05	5 "	$\frac{5}{8}$	1 40	$6\frac{1}{2}$ "
$\frac{5}{16}$	1 10	5 "	$\frac{11}{16}$	1 45	$6\frac{1}{2}$ "
$\frac{11}{32}$	1 15	5 "	$\frac{3}{4}$	1 55	$6\frac{1}{2}$ "
$\frac{3}{8}$	1 20	6 "	$\frac{13}{16}$	1 75	7 "
$\frac{13}{32}$	1 25	$6\frac{1}{4}$ "	$\frac{7}{8}$	2 05	$7\frac{1}{2}$ "
$\frac{7}{16}$	1 25	$6\frac{1}{4}$ "	$\frac{15}{16}$	2 30	8 "
$\frac{15}{32}$	1 30	$6\frac{1}{4}$ "	1	2 55	$8\frac{1}{2}$ "
$\frac{1}{2}$	1 30	$6\frac{1}{2}$ "	$1\frac{1}{8}$	3 10	9 "

Shanks $\frac{5}{8}$ in. by $\frac{3}{8}$ in. by $1\frac{1}{2}$ in. long, and $\frac{3}{4}$ in. by $\frac{1}{2}$ in. by $1\frac{3}{4}$ in. long.

Stubs' Steel Wire Gauge Drills.

Nos. by Gauge	Price per Doz.	Price each.	Length in ins.
1 to 5	$2 35	$0 22	4
6 to 10	2 25	21	$3\frac{11}{16}$
11 to 15	2 10	20	$3\frac{1}{2}$
16 to 20	1 95	19	$3\frac{1}{4}$
21 to 25	1 75	17	$3\frac{1}{16}$
26 to 30	1 55	15	$2\frac{13}{16}$
31 to 35	1 40	14	$2\frac{5}{8}$
36 to 40	1 25	12	$2\frac{7}{16}$
41 to 45	1 10	10	$2\frac{1}{4}$
46 to 50	95	09	$2\frac{1}{16}$
51 to 65	95	09	$1\frac{13}{4}$

Engineers' Brass Goods—(Best Steam Metal).

INCHES	¼	⅜	½	¾	1	1¼	1½	2	2½	3	3½	4
	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.
Globe Valves, screwed ... each	0 60	0 75	1 00	1 35	1 80	2 80	3 90	5 90	11 75	16 00	30 00	40 00
Angle Valves, flanged ... "	...	...	...	...	5 00	7 00	9 00	14 00	20 00	26 00	45 00	65 00
Check Valves, horizontal, angle or vertical "	0 50	0 60	0 85	1 15	1 55	2 30	3 25	5 20	10 00	14 00	...	...
Stop Cocks ... "	0 70	0 90	1 15	1 90	2 35	3 60	4 80	7 25	14 50	22 00	...	...
Stop Cocks, extra heavy ... "	...	...	1 55	2 00	2 85	5 00	7 00	12 00	22 00	28 00	...	...
Stop Cocks, three way ... "	...	...	...	...	4 00	6 75	9 50	14 00	28 00	36 40	...	...
Peet Valves ... "	...	1 30	1 65	2 70	3 00	4 45	5 95	9 20	17 75	23 75	...	...
Cross Valves ... "	...	...	1 50	2 00	2 50	3 50	5 00	7 00	16 00	24 00	...	...
Cross Valves, with flanges ... "	...	...	...	...	...	8 00	10 00	15 50	22 00	33 00	...	...
Radiator Valves, wood wheel ... "	...	...	1 25	1 80	2 40	3 75	4 75	...	...	...	...	...
Radiator Valves, N.P. mountings ... "	...	...	1 75	2 30	3 00	4 40	5 50	...	...	...	...	...
Combined Globe and Check Valves ... "	...	...	...	1 50	2 20	3 12	4 50	5 00	...	...	...	...
Combined Cock and Check Valves ... "	...	3 50	4 15	5 50	...	...	...	...	...	...	...	...
Safety Valves, cross or angle pattern ... "	...	2 75	3 50	5 00	7 00	8 00	8 50	12 00	20 00	30 00	...	...
Foot Valves, with strainer ... "	...	...	1 75	2 35	3 25	4 50	6 50	11 80	15 50	...	...	...
Whistle Valves ... "	...	2 70	3 30	4 40	5 10	5 50	11 00	20 00	30 00	...	...	...
Safety Valves, Crosby pop ... "	...	...	...	1200	1500	20 00	30 00	...	...	...	...	...
Hose Valves, with coupling ... "	...	...	1 75	2 30	3 80	5 20	8 00	16 00	24 00	...	...	...
Expansion Joints ... "	...	...	2 36	3 25	4 70	6 50	9 50	...	...	...	...	...
Hose Couplings ... "	...	0 30	0 35	0 50	1 20	1 75	2 30	5 00	8 34	...	...	...
Hose Branches, with cock ... "	...	...	1 00	...	...	...	...	...	...	...	...	...
Hose Clamps ... "	...	0 13	0 13	0 17	0 21	0 25	0 34	0 50	...	...	...	...
Hose Wire Fasteners ... per doz.	...	0 40	0 40	0 80	...	...	...	...	...	...	...	...
Hose Benders ... each	...	0 10	0 15	0 30	0 50	0 75	1 10	1 50	...	...	...	...

Engineers' Brass Goods—*Continued.*

Roberts' Patent Double Seated Improved Register Gauge Cock.

	Rough.	Finished.
No. 1. Screwed, ½ inch	$0 80	$0 90
" 2. " ½ "	0 90	1 00

Cocks and Gauges.

INCH	⅛	¼	⅜	½	¾
Cylinder Cocks, T handle, straight	$0 65	$0 65	$ 0 80	$ 1 40	.....
" " lever " "	0 80	0 80	0 90	1 25	.....
" " " " bent nose	1 00	1 00	1 25	2 15	.....
Cylinder Cocks, lever handle, bent nose, screwed both ends	1 05	1 10	1 30	2 25	.....
Compression Gauge Cocks, wood handle, babbit seat	.....	.....	1 50	1 75	$2 00
Compression Gauge Cocks, with stuffing box, wood handle, babbit seat	.....	.....	1 70	1 80	2 00
Water Gauge, glass and rubbers, 2 guards	.....	.....	3 20	3 20	.....
Water Gauge, complete, 3 guards	.....	.....	4 00	4 00	.....
" " 4 guards, complete, polished body	.....	.....	10 00	10 00	.....

Gauge Glasses, ⅝ inch, each, 30c.

Steam Whistles (with Valves).

Dia. of Bell,	1¼,	1½,	2,	2½,	3,	3½,	4,	5,	6.
For Pipe,	½,	½,	¾,	¾,	¾,	1,	1,	1½,	2.
Price each,	$3.85,	$4.40,	$5.90,	$7.50,	$9.00,	$12.00,	$15.50,	$24.00,	$31.50

Plain Oil Cups (Screwed Covers).

Dia. Shell,	¾,	⅞,	1,	1⅛,	1¼,	1½,	1¾,	2,	2¼,	2½,	3.
Screwed for Pipe,	⅛,	⅛,	¼,	¼,	¼,	⅜,	⅜,	⅜,	½,	½,	½.
Price ea.,	35c.,	40c.,	45c.,	50c.,	60c.,	90c..	$1.25,	$1.75,	$2.25,	$2.75,	$3.00.

Lightning Spring Top Oil Cups, same list.

Glass Oil Cups (with Guards).

Dia. and length of Glass,	1x1½,	1¼x1½,	1½x1½,	2x2,	2x2½,	2½x2½,	3x3,	3½x3½.
Screwed for Pipe	¼,	⅜,	⅜,	½,	½,	½,	¾,	¾.
Price each	$1.85,	$2.10,	$2.20,	$3.30,	$3.60,	$5.50,	$6.60,	$7.75.

Engineers' Iron Body Goods.

BRASS MOUNTED.

Size..	1¼	1½	2	2½	3	3½	4	4½	5	6	7
	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.
Globe Valves and Angle Valves — Screwed without Yoke.	2 50	3 50	4 50	7 50	10 50	.....	.....	.....	.....	.....	.....
Globe Valves and Angle Valves — Flanged " "	3 25	4 50	5 75	9 00	12 50	.....	.....	.....	.....	.....	.....
Globe Valves and Angle Valves — Screwed with Yoke....	....	....	....	10 00	14 50	16 00	20 00	28 00	32 00	44 00	65 00
Globe Valves and Angle Valves — Flanged "	....	....	....	11 50	16 50	18 50	23 00	32 00	36 00	49 00	70 00
Check Valves — Horizontal angle and vertical — Screwed	....	....	3 75	6 25	8 75	11 50	15 00	20 00	24 00	33 00	55 00
Check Valves — Horizontal angle and vertical — Flanged	....	....	5 00	7 75	10 75	14 00	18 00	24 00	28 00	38 00	60 00
Safety Valves, Cross and Angle, Screwed	....	4 75	6 50	12 00	15 00	20 00	24 00	30 00	36 00	48 00	96 00
" " " Flanged	....	....	....	14 25	18 00	23 75	28 50	35 50	42 00	55 00	104 00
Back Pressure Valves, Screwed.....	....	....	9 00	10 50	13 50	15 00	18 00	22 20	30 00	40 00	....
" " Flanged.....	....	....	10 25	12 00	15 50	17 50	21 00	26 00	34 00	44 00	60 00
Stop Cocks, Screwed.....	2 25	3 00	4 50	8 00	12 00	20 00	25 00	.....	.....	.....	.....
" Flanged.....	....	....	5 75	9 50	14 00	22 50	28 00	.....	.....	.....	.....
Three Way Cock, Screwed.....	2 40	3 35	5 10	8 75	13 00	22 00	28 00	....	.....	.....	.....
" " Flanged.....	3 65	4 85	7 10	11 00	16 00	25 75	32 50	.....	.....	.....	.....
Foot Valves, Screwed. ¾ $1 00 / 1 $1 30	1 75	2 50	3 25	4 00	5 00	6 50	8 00	10 00	12 00	17 00	.....
" Flanged. ¾ $1 00 / 1 $1 30	....	....	4 00	4 75	5 75	7 75	9 50	12 00	14 00	19 50	.....

Detroit Cylinder Lubricators.

AUTOMATIC SIGHT FEED.

Size ½ pint, brass, $22; plated, $25. Size 1 quart, brass, $45; plated, $50.
" 1 pint, " $30; " $35. " 2 " " $60; " $65.

Bailey Cylinder Lubricators.

No.	For Engine or Horse Power.	Price. Without Sight Feed.	Price. With Sight Feed.	Size of Shank Threaded.
1	4	$2 75	$5 00	⅜ in.
2	8	3 25	5 50	"
3	12	3 75	6 00	"
4	15	4 50	7 00	½ in.
5	25	5 50	8 00	"
6	40	6 50	9 00	"
7	70	8 50	11 00	¾ in.
8	100	10 50	13 00	"

For nickel plating add 20 per cent. For finishing partly in the rough, deduct 15c. to 25c. each, according to size.

Steam Gauges.

Size of Dial..	5	5½	6	6¾	8½
Japanned Case-finished Ring.....	$6 00	$8 00	$10 00	$14 00	$21 00
" " N. P. "	6 50	8 50	10 60	14 75	21 75
Bronzed " " "	8 25	10 25	12 75	16 75	25 00
Brass " and ring...	9 00	11 00	14 00	18 00	27 00

Malleable Iron Fittings.

(Classified and sold by weight as under.)

CLASS A.

Price 30 cts. per pound.

Elbows ⅛, ¼ x ⅛, ⅜ x ⅛.
Tees, ⅛, ⅜ x ¼, ¼ x ⅛, ⅜ x ⅛.
Reducing Couplings, ¼ x ⅛, ⅜ x ⅛.
Couplings, R.H., ⅛

CLASS B.

Price 18 cts. per pound.

Elbows and Tees, from ⅛ to ¾ inclusive.
Street Elbows, all sizes.
Elbows, side outlets, all sizes.
Crosses, all sizes.
Drop L's and Drop Tees, all sizes.
Caps, Plugs and Lock-nuts, all sizes.

CLASS B.

(Continued.)

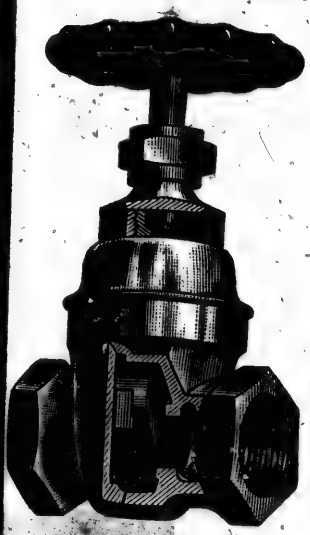
Reducing Couplings, all sizes.
Extension Pieces.
Right and Left Fittings, all sizes.
Right Hand Couplings, ¼ to 1.
Waste Nuts, Chandelier Hooks.
Return Bends, all sizes.
Straps, not tinned, all sizes.

CLASS C.

Price 16 cts. per pound.

Elbows and Tees 1 x ¾ and larger.
Such Fittings, in this class, as have one or more outlets smaller than ¾ will be charged in Class B.

Weber's Patent Straightway Valves.



DOUBLE GATE.

Solid Valves and Solid Seats

of Brass or Iron.

Composition Steam and Water Valves.

SCREW TOP. DOUBLE GATE. BEST STEAM METAL.

CLASS A.

Diameter of Opening....	$\frac{1}{2}$	$\frac{3}{4}$	1	$1\frac{1}{4}$	$1\frac{1}{2}$	2	$2\frac{1}{2}$	3	$3\frac{1}{2}$	4
Face to Face, Screw Ends	$2\frac{3}{8}$	$2\frac{3}{4}$	$3\frac{3}{8}$	$3\frac{11}{16}$	$4\frac{1}{8}$	$4\frac{3}{4}$	$6\frac{9}{16}$	$6\frac{5}{8}$	$8\frac{3}{8}$	$8\frac{15}{16}$
" Flange "	$2\frac{9}{16}$	3	$3\frac{7}{16}$	$3\frac{15}{16}$	$4\frac{9}{16}$	$5\frac{1}{16}$	$5\frac{3}{4}$	7	$8\frac{1}{4}$	$8\frac{7}{8}$
Diameter of Flanges....	3	3	4	$4\frac{1}{2}$	5	6	7	7	$8\frac{1}{2}$	9

PRICE LIST.

	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.
Screw End..	1 30	1 75	2 25	3 25	4 25	6 25	11 50	16 00	32 00	40 00	
Flange End.	2 50	3 00	4 00	5 00	7 50	10 00	16 00	20 00	40 00	48 00	
Sliding Stem and Lever, extra.....	1 00	1 20	1 40	1 60	1 80	2 00	2 25	2 50	2 75	3 00	

Weber's Straightway Valves.—*Continued.*

IRON BODY. FLANGE TOP. BEST STEAM METAL.

CLASS C.

Diameter of Opening inches.....	2½	3	3½	4	5	6	7	8	10	12	14	16	18	20	24
Face to Face, Screw Ends	6⅜	7¼	8¼	9⅜	9⅝	10⅞	11½	12	..	..	..	..	..	..	..
Face to Face, Flange Ends	6⅜	7¼	8¼	9⅜	9⅝	10⅞	11½	12	13⅝	14⅝	15⅞	16¾	18⅜	21	23½
Diameter of Flanges.	7	7	8½	9	10	11	12	13	16	18	21	23	25	27	31

PRICE LIST.

Screw Ends....	$10 00	$12 00	$16 00	$18 00	$25 00	$32 00	$41 00	$50 0
Flange Ends...	10 00	12 00	16 00	18 00	24 00	31 00	36 00	45 0
Sliding stem and Lever extra..	2 25	2 50	2 75	3 00	.....	.....	.....	.....

Blow Off Valves.

Best Steam Metal	1¼ $4 50	1½ $5 75	2 $8 25	2½ $14 25	3 $19 75

Iron Body, Brass Mounted...	2 $8 36	2½ $12 30	3 $14 75	3½ $20 00	4 $22 50

Will quote prices for larger sizes on application.

N. B.—Send for special circular and quotations on Water Gates and Class B Screw Top Iron Body Valves from 2 in. to 4 in.

Standard List of Malleable Iron Fittings.

DIS.	¼	⅜	½	¾	1	1¼	1½	2	2½	3	3½	4	5	6
Unions	$0 15	$0 18	$0 20	$0 28	$0 34	$0 46	$0 60	$0 80	$1 50	$2 10	$3 00	$4 00	.....	.....
Bushings	0 05	0 05	0 06	0 07	0 09	0 13	0 17	0 27	0 42	0 60	0 80	1 00	$1 85	$2 50
Plugs	0 03	0 03	0 04	0 05	0 06	0 10	0 13	0 20	0 35	0 50	0 75	0 85	1 75	2 40
Nipples—Shoulder	0 05	0 06	0 07	0 09	0 10	0 14	0 17	0 25	0 56	0 75	1 00	1 25	2 00	2 75
" Long	0 07	0 08	0 10	0 12	0 15	0 22	0 28	0 39	0 77	1 05	1 40	2 00	3 20	5 00
" Close	0 07	0 08	0 10	0 12	0 15	0 20	0 25	0 35	0 70	0 90	1 25	1 50	2 50	3 50
" R. & L.	0 10	0 10	0 12	0 15	0 18	0 24	0 35	0 50	1 00	1 25	1 60	2 40	4 00	5 50
Stop Cocks	.....	0 75	0 80	0 90	1 25	1 50	2 00	2 60	4 50	6 50	12 00	16 00	33 00	45 00
Flanges	.....	.....	0 20	0 28	0 36	0 50	0 65	0 90	1 40	2 00	2 75	3 50	5 00	6 00
Flanged Unions	.....	.....	0 75	0 80	1 00	1 25	1 50	1 75	2 00	2 75	3 50	4 20	6 00	7 50

Cast Iron Fittings.

INCH		¼	⅜	½	¾	1	1¼	1½	2
		$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.
Elbows and reducing elbows	each	....	....	0 06	0 8	0 11	0 15	0 21	0 30
Elbows, right and left,	"	....	....	0 07½	0 10	0 13¾	0 18¾	0 26¼	0 37½
Elbows, 45°	"	....	....	0 10	0 15	0 20	0 26	0 35	0 50
Tees and reducing tees	"	....	....	0 08	0 12	0 16	0 22	0 31	0 45
Crosses and reducing crosses	"	....	....	....	....	0 28	0 38	0 54	0 76
Return bends, close	"	....	....	....	0 13½	0 13½	0 28	0 40	0 55
" " open	"	....	....	....	0 19	0 26	0 44	0 64	1 00
Caps	"	....	....	....	....	....	....	....	....
Plugs	"	0 03	0 03	0 04	0 05	0 06	0 08	0 11	0 16
Reducing couplings	"	....	....	....	....	....	....	....	....
Flange unions	"	....	....	0 55	0 60	0 70	0 80	1 00	1 20
Bushings and reducing bushings	"	....	0 05	0 06	0 07	0 08	0 10	0 14	0 20

INCH		2½	3	3½	4	4½	5	6	7	8
		$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.
Elbows and reducing elbows	each	0 60	0 90	1 20	1 60	2 50	3 00	4 20	7 00	10 00
Elbows, right and left.	"	....	....	....	....	....	....	....	....	....
Elbows, 45°	"	1 30	1 60	1 90	2 50	3 50	4 50	5 50	9 00	12 00
Tees and reducing tees	"	0 90	1 35	1 80	2 40	3 75	4 50	6 30	10 00	15 00
Crosses and reducing crosses	"	1 50	2 24	3 00	4 00	5 00	6 00	8 40	14 00	20 00
Return bends, close	"	1 50	2 25	3 75	5 00	....	....	....	....	....
" " open	"	1 75	2 50	4 25	5 75	8 00	....	....	....	....
Caps	"	0 50	0 60	0 85	1 15	1 45	1 75	2 30	3 10	4 35
Plugs	"	0 25	0 45	0 60	0 80	1 00	1 30	1 90	3 75	5 50
Reducing couplings	"	0 70	1 00	1 50	2 00	2 50	3 00	4 00	8 00	11 00
Flange unions	"	1 50	1 90	2 30	2 80	3 50	5 00	6 50	8 00	10 00
Bushings and reducing bushings	"	0 30	0 45	0 60	0 80	1 00	1 30	1 90	3 75	5 50

Branch Tees.

Number of Outlets,	2	3	4	5	6	7	8
1 in. Outlets, 2½ centre to centre	$0.75	$0.90	$1.05	$1.20	$1.50	$2.20	$2.50

Hook Plates.

Number of Hooks,	1	2	3	4	5	6
Price	9c.	15c.	21c.	27c.	32c.	40c.

Wrought Iron Pipe for Gas, Steam and Water.

TABLE OF STANDARD DIMENSIONS AND SIZES.

Nominal Inside Diameter in Inches.	Weight per Foot in lbs.	Actual Inside Diameter in Inches.	Actual Outside Diameter in Inches.	Number of threads to Inch of Screw.	Price per foot.
⅛	.24	.27	.405	27	$0 06
¼	.42	.36	.54	18	0 06
⅜	.56	.49	.675	18	0 07
½	.85	.62	.84	14	0 08½
¾	1.12	.82	1.05	14	0 12
1	1.67	1.04	1.315	11½	0 17
1¼	2.25	1.38	1.66	11½	0 22
1½	2.69	1.61	1.90	11½	0 28
2	3.66	2.06	2.375	11½	0 41
2½	5.77	2.46	2.875	8	0 75
3	7.54	3.06	3.5	8	1 10
3½	9.05	3.54	4.0	8	1 38
4	10.72	4.02	4.5	8	1 75
4½	12.49	4.50	5.0	8	2 25
5	14.56	5.04	5.563	8	2 75
6	18.76	6.06	6.625	8	3 50
7	23.41	7.02	7.625	8	4 75
8	28.34	7.98	8.625	8	6 50

Pipe cut and screwed to specification.

Ewart's Patent Drive Chain.

Price List of Chain.

No.	Links per foot	Working strain.	Price per foot.	Equivalent in belting	No.	Links per foot	Working strain.	Price per foot.	Equivalent in belting.
25	13.3	75 lbs.	$0 13	⅛ in.	67	5.16	700 lbs	$0 30	8 in.
32	10.5	150 "	0 13	1½ "	73	3.7	800 "	0 40	9 "
33	8.6	150 "	0 12	2 "	75	4.5	800 "	0 35	9 "
34	8.6	175 "	0 13	2 "	77	5.16	800 "	0 35	8 "
35	7.4	200 "	0 14	2 "	78	4.5	1000 "	0 40	10 "
42	8.75	350 "	0 16	4 "	85	3.	1400 "	0 50	10 "
45	7.4	400 "	0 16	4 "	88	4.5	1400 "	0 50	10 "
48	6.	400 "	0 17	5 "	95	3.	1500 "	0 60	12 "
49	7.4	450 "	0 20	5 "	103	4.	1800 "	0 75	14 "
52	8.	600 "	0 25	6 "	105	2.	1700 "	0 70	12 "
53	8.	650 "	0 26	6 "	108	2.5	1800 "	0 80	14 "
55	7.4	650 "	0 22	6 "	114	3.66	2000 "	1 10	14 "
57	5.16	650 "	0 24	6 "	124	3.	2500 "	1 30	18 "
62	7.25	700 "	0 30	7 "	146	2.	2800 "	1 40	20 "
63	6.	700 "	0 30	7 "	600	2.	7000 "	1 00	24 "
64	6.	700 "	0 30	7 "	1050	1.2	12000 "	1 30	36 "
65	5.66	700 "	0 30	7 "	1075	1.2	16000 "	1 40	40 "
66	6.	700 "	0 30	8 "	1200	1.	7000 "	0 90	24 "

All chains are tested at two and one-half times the working strains given above.

Run chain with open side of coupling out, and back of coupling hook against driving side of wheel sprocket.

Ewart's Drive Chain.—*Continued.*

ATTACHMENT PRICE LIST PER FOOT.

(See above list for number of links per foot.)

No. Chain.	The only Attachments that are made on each size chain are given below.	Foot Price.
25	A2, A3, C1, E1, G1, K1, K5, K6, S1	$0 17
33	A1, D3, E1, I3, K1, K3, K5, K6, M1, S1	0 15
35	A1, A2, A10, C1, K1, S1	0 18
42	A1, C1, D2, K3, K5, M2, S1	0 20
45	A1, 2, 3, 10, C1, D1, D3, D5, E1, G1	0 20
	H1, I3, K1, K3, K5, M1, S1	0 31
52	A1, D2, E1, K5	0 32
55	A1, C1, K1, S1	0 27
57	A1, D3, D5, E1, F2, H1, K1, S2	0 30
67	A1, E1, FF, F2, H1, K1, S2	0 37
73	K1, K8, S2	0 50
75	E1, H1, K1	0 44
77	E1, F2, G1, H1, K1, K8, R1, S2	0 44
78	A3, E1, F2, F4, G1, H1, K1, S2	0 50
83	D5, E1, M3	0 56
85	E2, F1, F2, FF, H1, K2, K4, K7, S2 and Hod link.	0 62
88	F2, G1, K1, S2	0 69
95	F2, H2, K2	0 75
103	A1, F2, H1, K1, M2	0 94
105	F1, H1, K4, M3	0 87
108	F2, F3, FF, G1, K2, Hod link	1 00
146	E2, F1, F5, K4	1 85

Wheels for Ewart's Drive Chain.

No. of Chain.	4	6	8	10	12	14	16	18	20	24	30
25	$0 90	$1 40	$1 50	$1 75	$2 50	$3 00	$3 50	$5 00	$5 00	$5 00	.....
33	0 90	1 40	1 90	2 50	2 80	.....	3 50	.....	.....	5 00	.....
35, 45, 49, 55	1 00	1 50	2 00	2 50	3 00	3 50	4 00	4 50	5 00	6 00	7 50
42	1 00	1 50	2 00	2 50	3 00	.....	.....	4 50	.....	.....	.....
52	1 00	1 50	2 00	3 00	3 10	4 00	4 00	.....	5 00	6 00	7 50
67, 77	1 20	1 60	2 40	3 10	3 60	4 20	4 80	5 40	6 00	7 20	9 00
73	.....	.....	.....	3 00	3 75	4 50	5 00	5 75	6 75	9 25	10 75
78, 88	.....	1 90	2 40	2 90	3 70	4 30	4 90	5 50	6 25	7 50	9 50
85, 95	.....	2 00	2 50	.....	4 00	.....	5 00	6 85	7 50	9 50	12 00
103	.....	2 00	2 50	3 00	3 50	3 75	4 00	5 50	6 50	8 00	10 00
108	.....	.....	.....	.....	.....	.....	7 00	8 00	9 00	11 00	13 00
1050, 1075	.....	.....	.....	6 00	.....	.....	.....	16 00	18 00	10 22	Idler.
600	.....	.....	4 50	.....	6 50	.....	9 50	11 00	.....	14 00	.....

Wheels bored and key-seated or furnished with set screws at above prices.
A reduction will be made on wheels not bored.

MEMO.

Nos. 35 and 45 work on same wheels as No. 55, but are cheaper and lighter in weight and strength.

Nos. 57 and 67 work on same wheels as No. 77, but are cheaper and lighter, and are not ribbed as No. 77 is, but are shaped like No. 55.

No. 75 is a fine size for light transfers, live rolls, tie and pole loaders, cord wood elevators, lumber trimmers, slash tables, shingle block tables. No. 78 and 88 are stronger chains working on same wheels as No. 75.

Order S1, attachments for light sawdust carriers.
" S2, " " heavy " "

Files and Rasps.

KEARNEY & FOOT Co.

Mill and Round.

Inch.	Bastard	2d Cut.	Smooth.
4	$1 80	$2 15	$2 40
5	2 00	2 40	2 65
6	2 25	2 65	2 95
7	2 55	3 00	3 30
8	2 90	3 40	3 70
9	3 30	3 85	4 20
10	3 80	4 40	4 80
11	4 50	5 20	5 65
12	5 40	6 20	6 75
13	6 50	7 45	8 05
14	7 80	8 90	9 65
15	9 30	10 60	11 45
16	11 00	12 50	13 40

Flat and Square.

Inch.	Bastard	2d Cut.	Smooth.
[illegible]	$2 10	$2 40	$2 65
[illegible]	2 20	2 60	2 90
[illegible]	2 50	2 95	3 25
7	2 90	3 40	3 75
8	3 40	4 00	4 35
9	4 00	4 70	5 10
10	4 70	5 45	5 90
11	5 60	6 50	7 05
12	6 70	7 70	8 40
13	8 00	9 15	10 00
14	9 50	10 90	11 80
15	11 20	12 75	13 75
16	13 10	14 85	16 00

Hand, Warding and Pillar.

Inch.	Bastard	2d Cut.	Smooth.
4	$2 25	$2 70	$3 00
5	2 50	3 00	3 30
6	2 80	3 30	3 65
7	3 20	3 75	4 15
8	3 70	4 35	4 75
9	4 35	5 10	5 55
10	5 20	6 00	6 55
11	6 30	7 30	7 95
12	7 50	8 60	9 40
13	8 90	10 20	11 00
14	10 50	12 00	13 00
15	12 30	14 00	15 10
16	14 30	16 20	17 50

Half Rd. and Three Square.

Inch.	Bastard	2d Cut.	Smooth.
4	$2 50	3 00	$3 30
5	2 80	3 35	3 70
6	3 20	3 80	[illegible]
7	3 70	4 35	[illegible]
8	4 30	5 00	5 50
9	5 00	5 85	6 40
10	5 80	6 75	7 30
11	6 70	7 75	8 45
12	7 80	9 00	9 75
13	9 10	10 40	11 25
14	10 60	12 10	13 10
15	12 40	14 15	15 25
16	14 50	16 50	17 70

Extras.

Mill Double Cut, advance 1 inch.
Mill Narrow Points, " 1 "
Cross Cut Blunt, " 1 "
Cant Blunt (Double Cut), ad. 2 "
Ginsaw (Single), take Bastard price

Extras.

Slotting (Blunt), advance 2 in.
Knife, " 1 "
High Back Hlf. Rd. (Bl'nt) " 2 "
Cross (Blunt), " 2 "
Feather Edge (Blunt) " 2 "

Files and Rasps—*Continued.*

	INCH.	3	3½	4	4½	5	5½	6	7	8	9	10	11	12	13	14
		$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.
Tapers,	Single Cut.	1.10	1.10	1.20	1.40	1.70	2.00	2.40	3.00	3.80	4.60	5.70	7.20	9.00	11.00	13.20
"	Double "	1.60	1.60	1 75	2.00	2.40	2.75	3.25	4.00	4.95	5 90	7.10	8.80	10.80	12 90	15.20
Slim Tapers,	Single "	1.20	1.20	1 30	1.45	1.70	1.90	2.10	2.50	3.00	3.70	4.50	5.50	6.80	8.30	10.00
"	Double "	1.80	1.80	1.90	2 10	2.40	2.60	2.85	3 30	3.90	4.70	5.60	6.75	8.20	9.75	11.50
Pitsaw Blunt,	Single "	2.10	2.10	2.20	2.30	2.50	2.80	3.20	3.70	4.30	5.00	5.80	6.70	7.70	....	....
Hooktooth "	" "	....	....	....	....	....	....	3.60	3.90	4.40	5.10	6.00	7.10	8.40	....	....

EXTRAS.

Bandsaw, Heavy, Blunt, take Taper Double Cut Price,
" Light, " " Slim Taper " " " } Taper Points same price.

Cantsaw, Blunt, Single Cut,
Round Gulleting, " " } take Pitsaw price.

Round Off, " " take Hooktooth price.

Reversible Taper Saw, No. 7, $2 55 ; No. 8, $2.80 ; No. 9, $3.15 ; No. 10, $3.70 per doz.

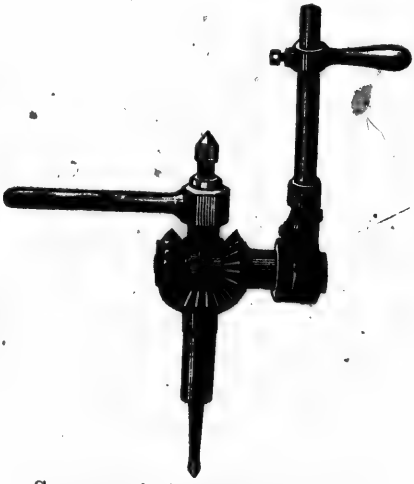
Ratchet Drills.

SANDIFORD'S.

No. 1. 10-inch handle, each..... $15 00
No. 2. 12-inch handle, each 18 00

LOWELL REVERSIBLE.

No. 1. 10-inch handle..$6 00
" 2. 12 " " .. 8 00
" 3. 15 " " ..10 00



SANDIFORD'S CONTINUOUS MOTION.

The "Cushman" Chuck.

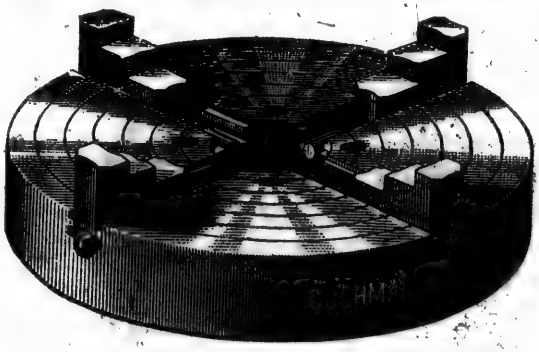
Combination Lathe Chucks.

	Three jaws.	Four jaws.		Three jaws.	Four jaws.
4-inch	$26 00	$32 00	18-inch	$62 00	$75 00
6 "	26 00	32 00	21 "	80 00	96 00
9 "	34 00	42 00	24 "	100 00	120 00
12 "	44 00	56 00	30 "	170 00	.....
15 "	52 00	64 00	36 "	230 00	.....

Improved Two-jawed Chucks.

Diameter. Inches.	Diam. of Hole. Inches.	Diam. of Face Plate. Inches.	Height of Jaw. Inches.	Width of Jaw. Inches.	Price.
4⅜	1	4½	1	1½	12 00
6	1¼	5⅝	1¼	1¾	18 00

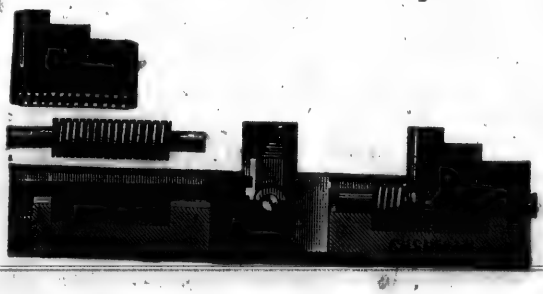
The "Cushman" Chuck—*Continued.*



Independent Four-jaw Chuck.

WITH REVERSIBLE JAWS.

Diameter. Inches.	Weight. Pounds.	Diameter of Hole. Inches.	Diameter of Face-Plate. Inches.	Price.
$4\frac{3}{8}$	6	1	$4\frac{6}{16}$	$14 00
6	11	$1\frac{3}{4}$	$5\frac{11}{16}$	18 00
8	25	$1\frac{7}{8}$	$4\frac{3}{4}$	22 00
10	35	2	$4\frac{3}{4}$	26 00
12	54	3	$6\frac{11}{16}$	30 00
14	72	3	$6\frac{11}{16}$	34 00
16	86	3	$6\frac{11}{16}$	38 00
18	113	4	$7\frac{13}{16}$	44 00
20	122	4	$7\frac{13}{16}$	50 00
22	172	$4\frac{3}{4}$	$9\frac{1}{2}$	57 00
24	193	$4\frac{3}{4}$	$9\frac{1}{2}$	65 00



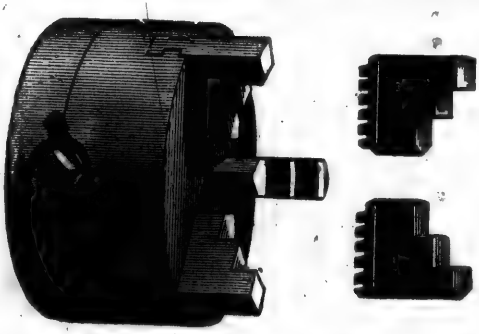
The "Cushman" Chuck—*Continued.*

Two-jaw.

BOX BODY.

Size. Inches.	Jaws. Take. Inches.	Price. Round Body.	Price. Box Body.	Ex. Slip. Jaws. Iron. Per pair.	Ex. Slip. Jaws. Steel. Per pair.
6	2½	$20 00	.....	$1 00	$2 00
7	3	24 00	$24 00	1 00	2 00
9	4	30 00	30 00	1 25	2 50
12	6		36 00	1 25	2 50
15	8		42 00	1 50	3 00

The Amateur Geared Chuck.

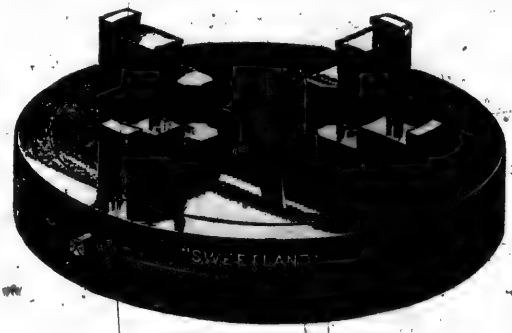


PRICE, with No. 1 or No. 2 Jaws, - - - $6 00
PRICE, with two sets of jaws, - - - 7 50

Planer Chucks.

	Square Base.	Swivel Base.
10 x 7	30	35 00
12 x 8	35	40 00

The "Sweetland" Chuck.



Combination Chuck.

BOTH INDEPENDENT AND UNIVERSAL.

Diameter.	Three Jaws. Price.	Four Jaws. Price.
6-inch	$26 00	$32 00
9 "	34 00	42 00
12 "	44 00	56 00
15 "	52 00	64 00
18 "	62 00	75 00
21 "	80 00	95 00
24 "	100 00	120 00
30 "	170 00	200 00
36 "	220 00	.....
Car Wheels	250 00	.....

Independent Chuck.

FOUR JAW.

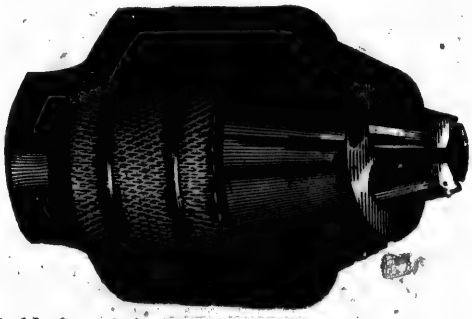
Diameter.	Price.	Diameter.	Price.
6-inch	$18 00	21-inch	$55 00
9 "	24 00	24 "	65 00
12 "	30 00	30 "	120 00
15 "	35 00	36 "	150 00
18 "	44 00		

Drill Chucks.

No. 1 holds 0 to $\frac{1}{2}$ inch	$7 00
" 2 " 0 to $\frac{3}{4}$ "	8 00

The "Giant" Drill Chuck.

HOLDS EITHER STRAIGHT OR TAPER SHANK.



No. 1 holds 0 to $\frac{3}{16}$ inch	$5 50
" 2 " 0 to $\frac{5}{8}$ "	6 00
" 3 " $\frac{3}{16}$ to $\frac{5}{8}$ "	10 00

The "Reid" Drill Chucks.

No. 1 holds 0 to $\frac{1}{2}$ inch	$10 00
" 2 " 0 to $\frac{3}{4}$ "	12 00

Emery Machinery.

	Price.
Single Emery Stand, with O Shaft, 15-16 mandrel	$18 00
No. 1. Double Emery Stand, with Shaft, 1 3-16 mandrel	20 00
No. 2. " " " " " "	30 00
No. 1. Rodgers' Saw Sharpener, complete	50 00
No. 2. Do., up to 48 in. circular	65 00
No. 3. Do., " 72 " "	75 00
No. 3. Do., with Gang Attachment	85 00
Peerless Saw Sharpener, Automatic, up to 72-in. saw	200 00
Bush's Knife Sharpener, up to 80 in. long	175 00
Union Stone Knife Sharpener, up to 24 in	125 00
" " " " " 36 "	145 00
" " " " " 50 "	165 00
" " " " " 60 "	180 00
" " " " " 80 "	200 00
" " " " " 100 "	250 00
" " " " " 120 "	300 00

Stone and Ore Crushers (Farrel & Marsden Pattern).

(Send for Circulars.)

No.	Size, or Receiving Capacity.	Approxim'te product per hour, in cubic yards, to two inches.	Weight of Heaviest Piece.	Total Weight.	Horse Power Req'red.	Cash Price delivered on board.
	Inches.		lbs.	lbs.		
1	3x1½	.....	40	100	.....	$ 50 00
2	6x2	One.	560	1,200	4	180 00
3	10x4	Three.	1,800	4,900	4	330 00
4	10x7	Five.	3,800	7,800	7	500 00
5	15x9	Eight.	6,800	14,500	10	650 00
6	15x10	Nine.	7,300	15,000	12	675 00
7	20x6	[illegible]	4,800	11,000	[illegible]	780 00
8	20x10	[illegible]	7,700	17,000	[illegible]	1,300 00
9	18x24	.....	.....	.....	.....	.....
10	.....	.....	.....	.....	.....	.....

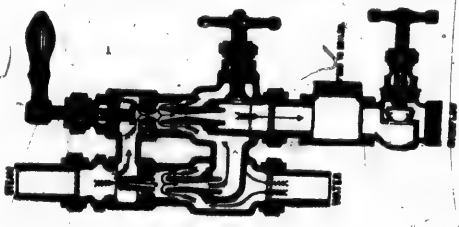
Emery Wheels.

In ordering, state the kind of work you wish to do, and give size of Mandrel.

PRICE LIST OF EMERY WHEELS.

No. of Revolutions per minute.	Dia.	THICKNESS OF WHEELS IN INCHES.											
		¼	½	¾	1	1¼	1½	1¾		2½	3	3½	
7,400	3	50	80	95	1 10	1 25	1 40	1 55	1 70	2 00	2 30	2 60	3 00
5,450	4	80	1 10	1 35	1 60	1 90	2 20	2 50	2 75	3 25	3 85	4 60	5 00
4,400	5	1 00	1 40	1 80	2 20	2 60	3 00	3 45	3 80	4 65	5 40	6 40	7 40
3,600	6	1 40	1 75	2 50	3 05	3 70	4 35	5 00	5 65	6 90	8 25	9 50	11 00
3,150	7	1 85	2 30	3 15	3 95	5 00	5 60	6 40	7 25	8 90	10 55	12 10	13 70
2,750	8	2 12	2 60	3 60	4 60	5 70	6 60	7 60	8 60	10 60	12 60	14 60	16 60
2,450	9	....	3 15	4 35	5 60	6 80	8 00	9 25	10 50	12 95	15 40	19 00	21 75
2,200	10	....	3 70	5 10	6 60	8 10	9 50	11 00	12 40	15 35	18 15	21 00	23 80
1,850	12	....	4 00	6 00	7 40	9 00	10 70	12 75	14 00	17 40	20 75	24 25	27 50
1,600	14	....	6 25	8 70	10 70	13 25	15 20	17 80	19 50	24 20	28 60	33 00	37 50
1,400	16	....	.....	11 00	13 70	16 90	19 40	22 25	25 00	30 80	36 50	43 00	48 75
1,250	18	....	.....	13 75	17 00	21 75	24 50	28 75	32 00	39 50	47 00	54 50	62 00
1,100	20	....	.....	.....	20 50	25 00	29 00	34 00	38 00	47 00	56 00	66 00	75 00
1,000	22	....	.....	.....	.....	29 87	35 50	41 12	46 75	58 00	69 25	80 50	91 75
925	24	....	.....	.....	.....	.....	43 50	50 00	57 00	71 00	85 00	99 00	113 00
735	30	....	.....	.....	.....	.....	.....	.....	87 50	109 00	131 00	153 00	175 00
550	36	....	.....	.....	.....	.....	.....	.....	127 00	157 00	188 00	219 00	250 00

Western Empire Boiler Feeders.



OVER 100,000 IN USE.

No.	Gallons per Hour.	Horse Power will Supply.	Suction and Feed.	Steam.	Price.
1	60	8	3/8	3/8	$ 18 00
2	90	12	1/2	3/8	20 00
3	120	16	1/2	3/8	24 00
4	220	30	3/4	1/2	30 00
5	300	40	3/4	1/2	35 00
6	420	56	1	3/4	45 00
7	540	72	1	3/4	50 00
8	720	96	1 1/4	1	55 00
9	900	120	1 1/4	1	60 00
10	1,260	168	1 1/4	1 1/4	75 00
11	1,740	230	1 1/2	1 1/4	90 00
12	2,236	298	2	1 1/2	110 00
13	2,820	376	2	1 1/2	125 00
14	3,480	464	2 1/2	2	150 00
15	3,600	600	2 1/2	2	175 00

The Penberthy Improved Automatic Injector.

OUR PROPOSITION.

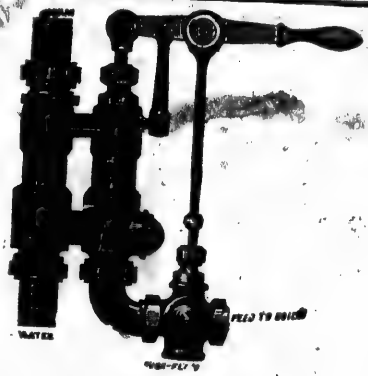
As every injector is tested before it leaves the factory, we know that if properly connected as in diagram furnished, and instructions are carried out, they cannot fail to work. We therefore offer to pay the expenses of any man to come to the factory, and $10 per per day while there, if the Injector does not work, providing it has not been misused.

As the body will last for years, it is only necessary to order working parts to make Injector good as new. Every purchaser can repair his own Injector without sending it to factory.

Size.	Price.	Gallons per hour 65 lbs. pressure.	Size of Pipe Connection.	Horse Power.
No. OO.....	$ 16 00	60	⅜	4 to 8
No. A.....	18 00	85	½	8 " 12
No. AA.....	20 00	120	½	12 " 16
No. B.....	25 00	220	¾	16 " 28
No. BB.....	30 00	300	¾	28 " 40
No. C.....	40 00	430	1	40 " 57
No. CC.....	45 00	540	1	57 " 72
No. D.....	55 00	700	1¼	72 " 93
No. DD.....	60 00	900	1¼	93 " 120
No. E.....	75 00	1,260	1¼	120 " 160
No. EE.....	90 00	1,740	1¼	160 " 220
No. F.....	110 00	2,240	2	220 " 290
No. FF.....	125 00	2,870	2	290 " 308

A written guarantee with each Injector.

The Improved Boiler Feeder.



NEW STYLE, WITH McAVITY'S PATENT IMPROVEMENT.

These are constructed in two parts, as shown, one side being designed for lifting and delivering, and the other for forcing against pressures. The lifting side only need be used to raise water to a moderate height, and for extreme height the forcing side.

Each Boiler Feeder carefully tested and proved before leaving the Factory.

Price List of the Improved Boiler Feeder with McAvity's Patent Improvement.

Number.	Suction & Feed.	Steam.	Galls. per hour 60 lbs. pressure	Suitable for Horse Power.	Price.
7½	¾	¾	60	2 to 8	$18 00
8¾	¾	¾	90	5 " 12	20 00
10	¾	¾	120	10 " 20	24 00
12½	¾	¾	220	15 " 30	30 00
15	¾	¾	300	20 " 40	35 00
17½	1	¾	360	30 " 60	45 00
20	1	¾	540	40 " 80	50 00
22½	1¼	1	720	50 " 100	55 00
25	1¼	1	900	70 " 120	60 00
30	1½	1¼	1,260	110 " 160	75 00
35	1½	1¼	1,740	150 " 225	90 00
40	2	1½	2,230	220 " 300	110 00
45	2	1½	2,820	300 " 400	125 00

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le for Power.	Price.
o 8	$18 00
12	20 00
20	24 00
30	30 00
40	35 00
60	45 00
80	50 00
100	55 00
120	60 00
160	75 00
225	90 00
300	110 00
400	125 00

Buffalo Forges and Hand Blowers.

I have the exclusive Canadian agency and keep in stock at all times a full assortment of these very excellent Forges and Blowers.

FORGE No. 1.

No.	Size of Hearth.	Diam. of Fan.	Wt. complete.	Price with open Hood.	Price with Dash.	Price with closed Hood.	Price arranged for Power
0	28 in. x 40 in.	12 in.	250 lbs	$45 00	$44 00	$48 00	$50 00
1	21 in. x 27 in.	8 "	150 "	30 00	29 00	32 00	35 00
4	18 in. round..	6 "	85 "	26 00	25 00	28 00	30 00
6	14 n. round..	5 "	40 "	18 00	17 00	20 00	.....
						PRICE.	PRICE.
Blowers 12 in. Fan, iron frame.....						$25 00	$28 00
" 12 in. " wood "						22 00	25 00

Jack Screws.

	No. 1.	No. 2.	No. 3.
Diam. of Screw...	2 in.	2½ in.	3 in.
Length of Screw..	13 "	15 "	17 "
Height over all when screwed down.....	19 "	21½ "	23 "
Weight.....	54 lbs.	72 lbs.	106 lbs.
Price.....	$8 00	$11 00	$20 00

Alligator Wrenches.

	No. 1.	No. 2.	No. 3.	No. 4.	No. 5.
Holds Pipe.....	⅛ to ⅜	⅜ to ¾	½ to 1¼	1¼ to 2	2 to 3 in.
Holds Round Iron	¼ to ¾	½ to 1	¾ to 1⅜	1½ to 2½	2¼ to 3½ "
Length.....	5¾ in.	10 in.	16 in.	22 in.	27 in.
Price.....	$4 00	$12 00	$24 00	$36 00	$54 00 per doz.

Malleable Iron Pipe Vises.

No. 1,	holds pipe	⅛ to 2	inches,	weighs	15 lbs.....	$10 00
No. 2,	"	¼ to 2	"	"	30 lbs.....	15 00
No. 1,	"	⅛ to 2	"	"	22 lbs. open jaw.....	12 00
No. 2,	"	¼ to 2	"	"	36 lbs. "	16 00

Brock's Patent Chain Tongs.

Size	No. 1.	No. 2.	No. 3.	No. 4.
Capacity up to	1½	2½	4	8½
Price	$4 50	$7 00	$9 50	$14 00

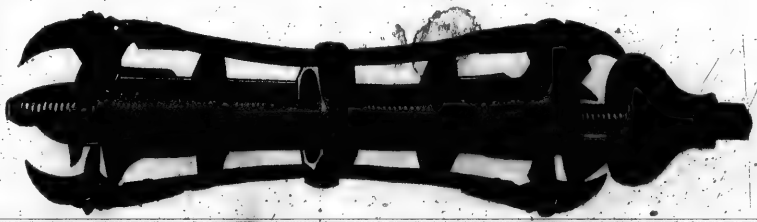
1 Wheel Pipe Cutter.

No. 1, cuts pipe ⅛ to 1 inch	00
No. 2, " 1 to 2 "	6 00
No. 3, " 2 to 3 "	18 50

3 Wheel Pipe Cutter.

No. 1, cuts pipe ⅛ to ¾ inch	$4 50
No. 2, " ½ to 2 "	7 50
No. 3, " 1½ to 3 "	12 50

Tube Cleaners.



Size, inches,	2	2½	3	3½	4
Price	$2 00	$2 50	$3 00	$3 50	$4 00

Standard Wrenches.

Size, inches,	8	10	12	15	18
Price per doz.....	$10 00	$12 00	$14 00	$24 00	$30 00

The Diamond Wrench.

Size, inches,	8	10	12	15	18
Price per doz.....	$10 00	$12 00	$15 00	$24 00	$30 00

The Engineer's Wrench.

Size, inches,	10	12	15
Price per doz.....	$25 25	$28 50	$40 50

Heavy Steel Lathe Dogs.

(With Steel Screws. U.S. Standard, and the Points Hardened.)

This Dog has a very heavy Boss, so that if the thread wears a heavier screw can be substituted.

No.	Inch.	Price.	No.	Inch.	Price.
1	⅜	$0 40	13	2¼	$1 35
2	½	50	14	2½	1 45
3	⅝	60	15	3	1 60
4	¾	60	16	3½	1 80
5	⅞	70	17	4	2 10
6	1	70	18	4½	2 75
7	1⅛	80	19	5	3 25
8	1¼	80	Full set of 19, $23 60.		
9	1⅜	95	20 (extra)	5½	4 00
10	1½	95	21 "	6	5 00
11	1¾	1 10	22 "	7	6 00
12	2	1 20	23 "	8	7 00

One small set of 8, by ¼ in. to 2 in. 6 25
One set of 12, by ¼ to 2 in. continued by ½ to 4 in. 13 00

When ordering, state as above, whether a full set, or a set of 12, or small set of 8 is wanted.

Steel Dog Wrenches.

Fitting screw heads from ⅜ to ¾ in. square. Will answer for both Dogs and Tool Post.

Price 75 cents each.

Straight Tail Lathe Dogs (with Steel Screws).

U.S. Standard, and the points hardened. To be driven from a stud in the face plate.

It is from the same pattern as the Heavy Steel Dog, and warranted, like that, not to break with any work.

This pattern will stand much more than a bent tail, and some prefer them on account of their direct action on the work.

No.	Inch.	Price.	No.	Inch.	Price.
1	$\frac{3}{4}$	$0 60	11	$2\frac{1}{2}$	$1 45
2	$\frac{7}{8}$	70	12	3	1 60
3	1	70	13	$3\frac{1}{2}$	1 80
4	$1\frac{1}{8}$	80	14	4	2 10
5	$1\frac{1}{4}$	80	15	$4\frac{1}{2}$	2 75
6	$1\frac{3}{8}$	95	16	5	3 25
7	$1\frac{1}{2}$	95	17	$5\frac{1}{2}$	4 00
8	$1\frac{3}{4}$	1 10	18	6	5 00
9	2	1 20	19	7	6 00
10	$2\frac{1}{4}$	1 35	20	8	7 00

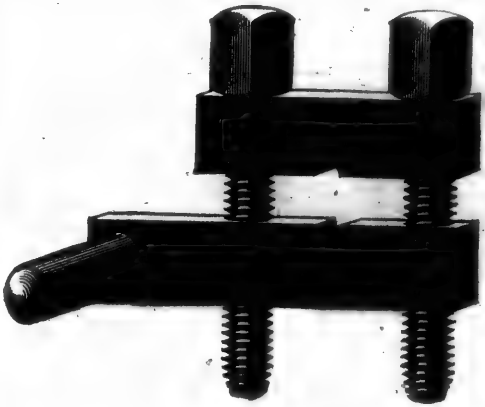
One Set to 2 inch, $7.80. Full Set, $44.10.

Plain Wrenches.

No. 1,	$\frac{1}{4}$ and	$\frac{5}{16}$ inch		$0 25
" 2,	$\frac{3}{8}$ "	$\frac{7}{16}$ "		40
" 3,	$\frac{1}{2}$ "	$\frac{9}{16}$ "		50
" 4,	$\frac{5}{8}$ "	$\frac{3}{4}$ "		60
" 5,	$\frac{7}{8}$ "	1 "		90
" 6,	$1\frac{1}{8}$ "	$1\frac{1}{4}$ "		1 50
" 7,	$1\frac{3}{8}$ "	$1\frac{1}{2}$ "		2 50
Per Set				$6 65

Steel Clamp Dogs.

These are made from the Steel Bar. They will carry all that can be put into them.



PRICES.

No.	Opens.	
1	1 inch.	$1 25
2	1½ "	1 50
3	2 "	1 75
4	3 "	2 00
Full Set.		$6 50

Vise Clamps.

WITH 2 SCREWS. STEEL CASTINGS.

No. 1,	opening to 1¼ inch	$1 25
" 2,	" 2¼ "	1 50
" 3,	" 3¼ "	2 00
" 4,	" 4¼ "	2 50
" 5,	" 5¼ "	3 25
" 6,	" 6¼ "	4 00
Full Set		$14 50

Steel Chuck Drill Holders.

FOR LATHE WORK.

No. 1,	taking Drills from ⅜ to 9/16 inch	$0 50
" 2,	" " " 9/16 " ¾ "	50
" 3,	" " " ¾ " 1⅛ "	60
" 4,	" " " 1⅛ " 1⅝ "	75
" 5,	" " " 1⅝ " 2 "	90
Full Set		$3 25

Vises.

The "Fisher" Double Screw Parallel Leg Vise.

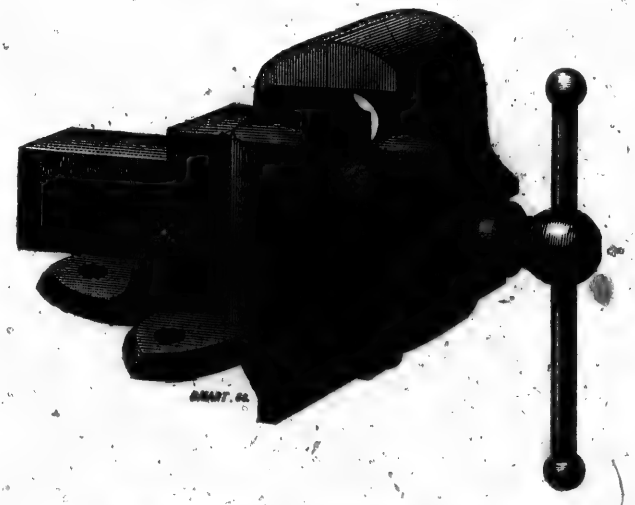
PRICE LIST.

No.	Weight.	Face of Jaws.	Opens.	Price Each.
1	25 lbs.	3½ in.	4½ in.	$8 50
2	65 "	4½ "	5½ "	12 50
3	90 "	5¼ "	6½ "	19 00
4	120 "	6¼ "	7½ "	25 00
5	150 "	7 "	9 "	32 00
6	160 "	8 "	10 "	36 00

NOTE.—The No. 1 is too small to require a Leg, and is therefore made without it.

This vise requires very little more power to move than the ordinary single screw vise. It holds the work parallel always, at any opening up to the full measure of its capacity. The jaws are made of the best tool cast steel, welded on, file cut, properly hardened and of convenient shape; and for a strong, durable, convenient vise there is nothing to equal this "Fisher" vise in the market.

The Simpson Vise.



Stationary Bench Vises.

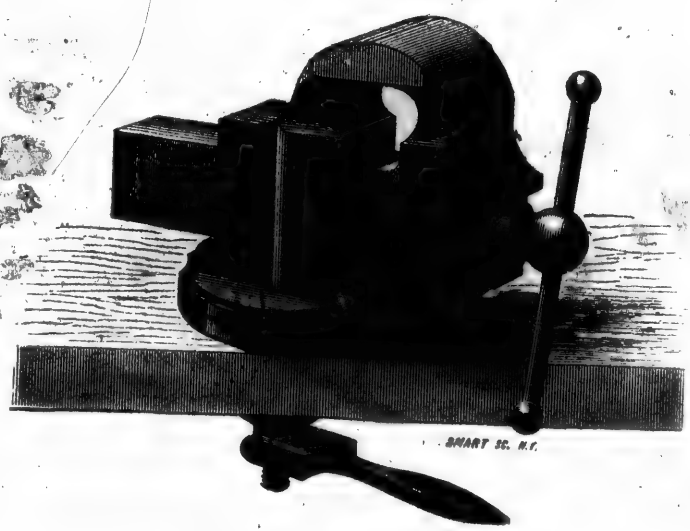
	Width of jaws.	Jaws open.	Weight.	Price.
No. 29	2⅞ inches.	3¼ inches.	15¼ lbs.	$4 75
" 30	3½ "	4 "	26 "	6 50
" 31	4 "	5 "	37 "	8 00
" 32	4½ "	5¾ "	49 "	10 00
" 33	5 "	6½ "	64 "	12 50

Standard Vise.

	Width of jaws.	Jaws open.	Weight.	Price.
No. 89	2⅞ inches.	3½ inches.	16 lbs.	$4 75
" 90	3½ "	4 "	26½ "	6 50
" 91	4 "	5 "	38 "	8 00
" 92	4½ "	6 "	50 "	10 00
" 93	5 "	7 "	65 "	12 50

These Vises are the same, in all respects, as the Simpson Vise, with the exception of the QUICK ADJUSTMENT.

The Simpson Vise—*Continued.*



Swivel Bench Vises.

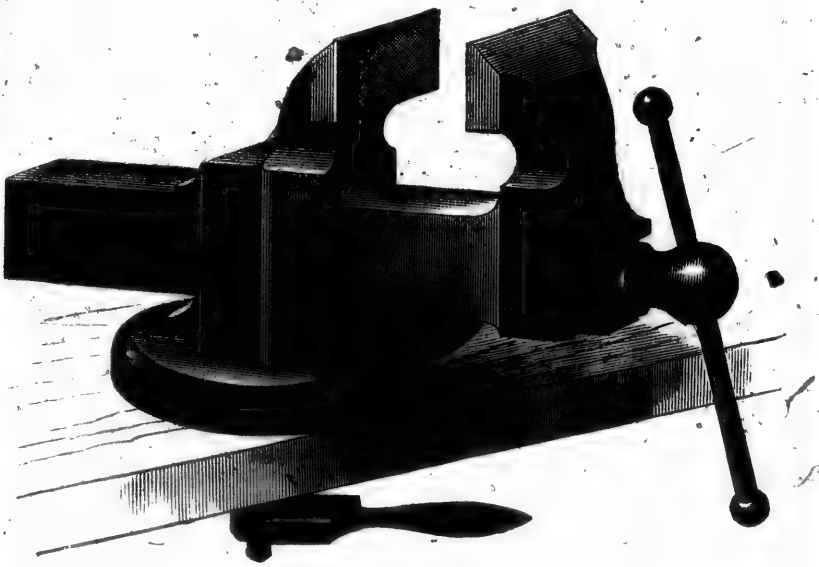
	Width of Jaws.	Jaws open.	Weight.	Price.
No. 11	2½ inches.	2¾ inches.	9½ lbs	$4 00
" 12	2⅞ "	3¼ "	17½ "	5 50
" 13	3½ "	4 "	28 "	7 50
" 14	4 "	5 "	44 "	10 00
" 15	4½ "	5¾ "	59 "	13 00

Standard Pattern.

(Without quick adjustment.)

	Width of Jaws.	Jaws open.	Weight.	Price.
No. 79	2⅞ inches.	3½ inches.	18 lbs.	$5 50
" 80	3½ "	4 "	28½ "	7 50
" 81	4 "	5 "	45 "	10 00
" 82	4½ "	"	60 "	13 00

The Simpson Vise—*Continued.*



Swivel Coachmakers' Vises.

	Width of Jaws.	Jaws open.	Weight.	Price.
No. 42	4 inches.	8½ inches.	48 lbs.	$11 50
" 43	4½ "	10½ "	58 "	13 00

With Swivel Jaw.

	Width of Jaws.	Jaws open.	Weight.	Price.
No. 46	4 inches.	8½ inches.	52 lbs.	$13 00

Double Chain Screw Hoisting Machines.

(In ordering Chains, allow four feet of Chain to each foot of Lift.)

This is the most complete chain block manufactured on the Continent. No factory can afford to be without it.

Weight of Machine.	Lift.	To Raise.	Price.	Extra Lift per ft.
35 lbs.	8 ft.	500 lbs.	$27 00	$1 20
52 "	8 "	1,000 "	30 00	1 44
65 "	8 "	2,000 "	36 00	1 80
76 "	8 "	3,000 "	48 00	2 00
140 "	9 "	4,000 "	66 00	2 40
226 "	10 "	6,000 "	90 00	2 60
258 "	10 "	8,000 "	115 00	2 90
625 "	12 "	10,000 "	170 00	3 60
750 "	12 "	12,000 "	215 00	4 50
875 "	12 "	16,000 "	315 00	5 70
925 "	12 "	20,000 "	400 00	7 20

Force Pumps.

On base. With Air Chamber. Two discharges and cock.

2½-in. Bore, capacity per stroke ⅛ gallon, for 1¼ pipe, each . . . $12 50
3-in. Bore, capacity per stroke ⅛ gallon, for 1¼ or 1½ pipe. 14 50

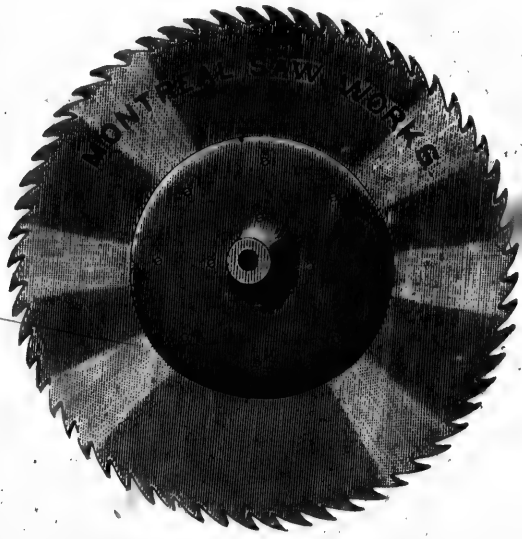
Wheel Barrows and Scrapers.

Wheeled Scraper, or self-loading and dumping cart	No. 2, each	$50 00
	No. 3, each	55 00
Drag Scraper, all steel	No. 1, 7 cubic feet, each	13 00
	No. 2, 5 cubic feet, each	12 00
Wooden Railway Barrows, each		2 00
Iron Mining Barrows, No. 4A., each		13 50

Turbine Water Wheels.

Leffel's Double Turbine. The Vulcan Double Turbine. The Peerless Single Turbine.

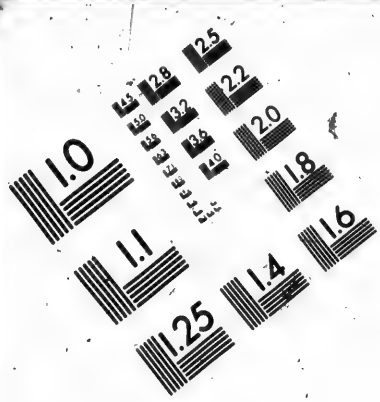
Size in Inches	Vents.	Material.	Price of "Vulcan."	Price of "Leffel."	Globe Case.	Peerless. Size Inches.	Peerless. Vents.	Peerless. Price.
	sq. in.						sq. in.	
6⅝	4 9/16	Brass...	$80	$70	$50	6	3½	$60
7⅝	6½	"	90	80	55	8	6½	75
8¾	8⅜	"	100	85	60	10	9	90
10	11¼	"	110	90	65	12	16	100
11½	14⅜	"	120	100	70	14	21	110
13¼	19¾	Brass	80	75	75	16	30	130
15¼	26⅛	Gates	90	80	80	18	36	150
17½	34½	" ..	100	90	90	21	45	180
20	45	Iron....	110	90	100	24	64	225
23	59½	"	125	100	115	27	80	250
26½	79	"	150	118	130	30	100	290
30½	104	"	175	135	175	36	142	340
35	137	"	210	173	.....	42	203	400
40	180	"	260	215	.....	48	263	500
44	217	"	300	255	.....	.....	.....	.....
48	259	"	340	285	.....	.....	.....	.....
52	338	"	410	330	.....	.....	.....	.....
56	441	"	500	435	.....	.....	.....	.....
61	518	"	650	550	.....	.....	.....	.....
66	624	"	750	600	.....	.....	.....	.....
74	769	"	.....	900	.....	.....	.....	.....
84	991	"	.....	1300	.....	.....	.....	.....
96	1295	"	.....	1500	.....	.....	.....	.....



PATENT MACHINE GROUND, OF EXTRA QUALITY AND SUPERIOR WORKMANSHIP

Size.	Gauge.	Price.	Each Gauge extra.	Size.	Gauge.	Price.	Each Gauge extra.
4 in.	18	$0 70	$0 06	36 in.	9	$21 00	$1 50
5 "	18	0 92	08	38 "	8	24 20	1 75
6 "	17	1 15	10	40 "	8	29 40	2 25
7 "	17	1 40	12	42 "	8	34 65	2 75
8 "	16	1 68	14	44 "	8	42 00	3 20
9 "	15	1 95	16	46 "	7	49 25	3 75
10 "	14	2 25	18	48 "	6	57 75	4 50
12 "	14	2 85	20	50 "	6	65 65	4 75
14 "	14	3 50	24	52 "	6	76 00	6 30
16 "	13	4 40	30	54 "	6	89 75	7 50
18 "	13	5 30	45	56 "	5	107 50	9 00
20 "	12	6 40	48	58 "	5	126 50	10 50
22 "	12	7 50	52	60 "	5	130 00	12 00
24 "	11	8 60	60	62 "	5	162 75	13 00
26 "	11	10 50	70	64 "	5	189 00	15 75
28 "	11	12 00	80	66 "	5	202 00	18 00
30 "	10	14 00	90	68 "	4	226 00	20 00
32 "	10	16 50	1 00	70 "	4	252 00	22 50
34 "	10	19 50	1 20	72 "	4	284 00	25 00

In ordering, be careful to give diameter, gauge, size of eye, style of ooth (speed of Mill Saws, and whether right or left hand).



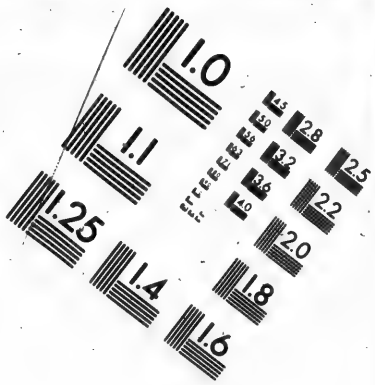
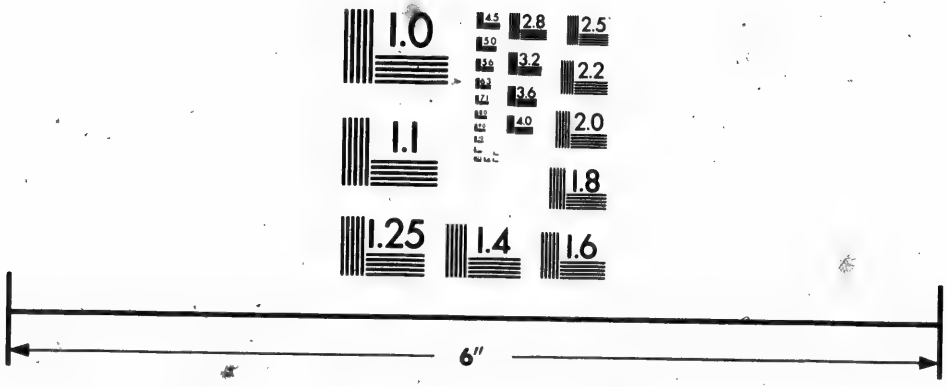
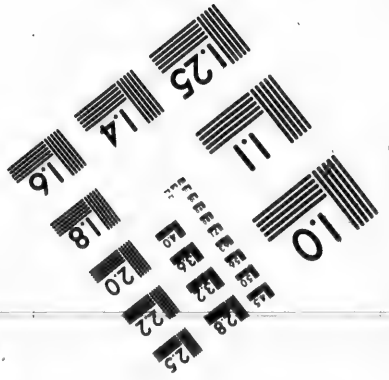


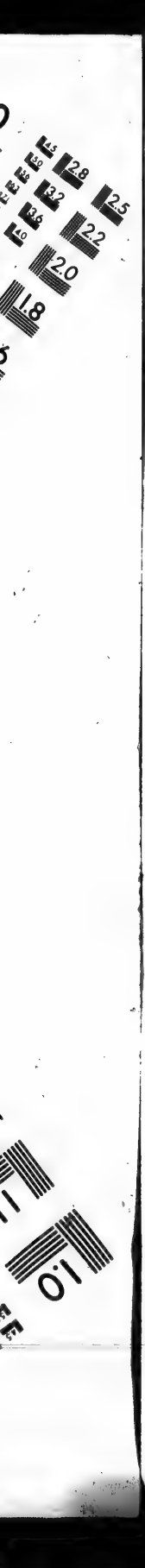
IMAGE EVALUATION TEST TARGET (MT-3)





Photographic Sciences Corporation

23 WEST MAIN STREET
WEBSTER, N.Y. 14580
(716) 872-4503



French Band Saw Blades.

I have the exclusive agency, and import direct from the makers, in France, these well-known Saws. I purchase in long lengths, and braze to order. Every saw is guaranteed to the satisfaction of the purchaser. Customers can do their own brazing, if they so choose. Prices are for unbrazed Saws. Brazing extra, as per List. Give extreme lengths in ordering, and be particular to say whether you want the Saws brazed or unbrazed.

Width.	Price Per Foot.	Width.	Price Per Foot.	Width.	Price Per Foot.
1/8 in.	10 cts.	1/2 in.	14 cts.	1 in.	22 cts.
3-16 "	10 1/2 "	5/8 "	16 "	1 1/8 "	26 "
1/4 "	11 "	3/4 "	18 "	1 1/4 "	30 "
3/8 "	12 1/2 "	7/8 "	20 "	1 1/2 "	40 "
Brazing above,	25 "	Brazing above,	40c.	Brazing above,	60 "

Band Saw Supplies.

Silver Solder, per oz.	$2 00	Brazing Tongs, each	$1 50
5 in. 3-Square Files, per doz	2 75	Filing Clamps, "	4 00
6 " " " "	3 00	Brazing Clamps, "	3 50
7 " " " "	3 50	Band Saw Sets, "	12 00
		Wheels and Board, "	10 00

These Files are made specially for filing the French Band Saws, so as to preserve the round corner of the toothing.

Drag Saws.

Teething.	Width at butt.	Width at point.	Usual length.	Price per foot.
Champion	10 in.	8 in.	6 ft. 6 in.	$1 75
Lance	10 "	8 "	6 " 6 "	1 75

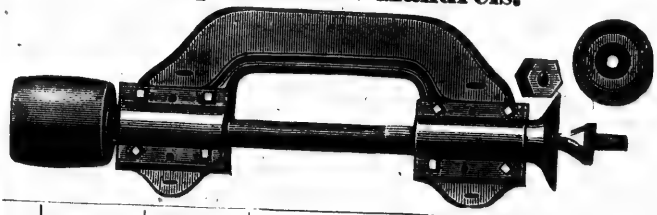
Shingle Saws.

(Taper Ground to 14 Gauge at Teeth.)

Diameter...	32 in.	34 in.	36 in.	38 in.	40 in.	42 in.	44 in.	46 in.
Price	$22.00	$25.00	$30.00	$34.00	$40,00	$50.00	$61.00	$75.00

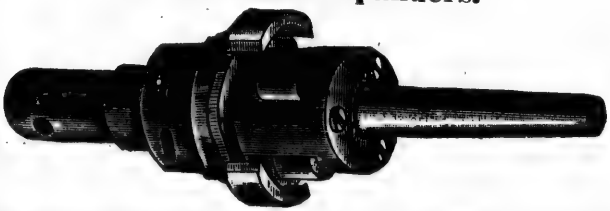
The above prices include drilling for the flange holes. Send templet of flange.

Improved Saw Mandrels.



No.	Dist. between Pulley and Saw.	Diameter of Pulley.	Face of Pulley.	Diameter of Spindle.	Speed.	Price.
	Inches.	Inches.	Inches.	Inches.		
1	16	3½	4	1	2,800	$10 00
2	19½	4¾	5¼	1 3-16	2,500	12 00
3	22	5	6	1 7-16	2,000	14 00
4	24	6	7	1 7-16	1,500	16 00
5	36	7	8	1 ¾	1,200	18 00

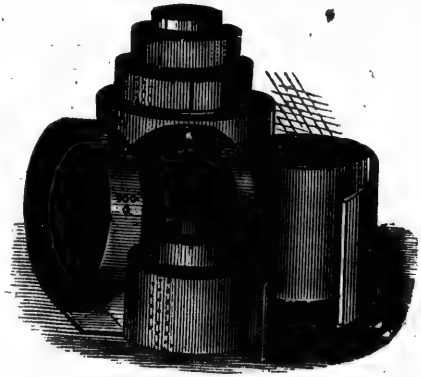
Roller Tube Expanders.



1⅝ in.	1½ in.	1¾ in.	1⅞ in.	2 in.	2¼ in.	2½ in.	2¾ in.	3 in.	3½ in.
$14	$15	$15	$15	$16	$16	$18	$20	$22.50	$28

Expanders for Special Purposes made to order.

English Oak-Tanned Belting.



I carry a very large stock of GENUINE ENGLISH OAK-TANNED BELTING, imported direct from England. Customers pronounce this belt "*the best belt ever brought into Canada.*" The leather is very even in thickness and of very best quality, being tanned exclusively by the oak tanning process, and finished in very best style. Joints are all glued and sewed joints (sewed with raw-hide lace) up to 4 in., and glued and sewed and riveted above 4 in.

The widths 4½ ins. and under weigh 18 oz. to the square foot, and from 5 ins. and over run from 20 to 24 ozs. per square foot. A number of my customers are using this single belt instead of double belt with very satisfactory results. I have all widths in stock up to 16 ins. in single, and also carry 3, 3½, 4, 6, 8, 10, 12, 15 and 18 ins. double.

This belt is guaranteed to run true and straight. I sell by the low Canadian list and guarantee the belt equal or superior to any of the best American belt now imported into Canada and sold on the American price list, which is much higher.

I also carry in widths 4 ins. and under a lighter grade of this belt, weighing about 16 oz. to the square foot. Quality of leather, joints and finish are all similar to "Heavy," but the leather is a little lighter. This I call "No. 1."

	Per foot.		Per foot.		Per foot.
1 inch	$0 07	5½ inch	0 50	16 inch	1 70
1¼ "	0 09½	6 "	0 55	17 "	1 82
1½ "	0 12	7 "	0 65	18 "	1 95
1¾ "	0 14	8 "	0 75	19 "	2 07
2 "	0 15	9 "	0 85	20 "	2 26
2½ "	0 20	10 "	0 95	22 "	2 45
3 "	0 25	11 "	1 07	24 "	2 75
3½ "	0 30	12 "	1 20	27 "	3 13
4 "	0 35	13 "	1 32	30 "	3 50
4½ "	0 40	14 "	1 44	39 "	4 25
5 "	0 45	15 "	1 56	49 "	5 00

DOUBLE BELT, DOUBLE PRICE.

	Per lb.
Best Lace Leather in half hides, ranging from 3 to 7 lbs.	$0 80
Cut Laces, any width	1 00
Lace Cutters, each	0 75

Rubber Belting.

(Made from Best Cotton Duck.)

THREE-PLY.

Width.			
2 inch,	per foot	.....	$0 17
2½ "	"	.....	22
3 "	"	.....	26
3½ "	"	.....	30
4 "	"	.....	34
4½ "	"	.....	39
5 "	"	.....	43
6 "	"	.....	52
7 "	"	.....	60
8 "	"	.....	70
9 "	"	.....	80
10 "	"	.....	90
11 "	"	.....	1 00
12 "	"	.....	1 08
13 "	"	.....	1 18
14 "	"	.....	1 28
15 "	"	.....	1 38
16 "	"	.....	1 50
18 "	"	.....	1 70
20 "	"	.....	1 90
22 "	"	.....	2 12
24 "	"	.....	2 36
26 "	"	.....	2 60
28 "	"	.....	2 84

☞For purposes where unusual strength is required—equivalent to double leather—we make 5 or 6-ply Belts to order, at one week's notice at an advance on Four-ply prices of 25 per cent. for each additional ply.

FOUR-PLY.

Width.			
2 inch,	per foot	.....	$0 21
2½ "	"	.....	26
3 "	"	.....	31
3½ "	"	.....	37
4 "	"	.....	42
4½ "	"	.....	47
5 "	"	.....	52
6 "	"	.....	62
7 "	"	.....	73
8 "	"	.....	84
9 "	"	.....	95
10 "	"	.....	1 07
11 "	"	.....	1 18
12 "	"	.....	1 30
13 "	"	.....	1 42
14 "	"	.....	1 54
15 "	"	.....	1 66
16 "	"	.....	1 78
18 "	"	.....	2 02
20 "	"	.....	2 26
22 "	"	.....	2 52
24 "	"	.....	2 80
26 "	"	.....	3 08
28 "	"	.....	3 36
30 "	"	.....	3 64

Intermediate widths at proportionate prices.

Two-Ply Machine Belting.

(For Agricultural Machines and other Light Work.)

Width.				Width.			
1 inch,	per foot	.....	$0 07	2½ inch,	per foot	.....	$0 18
1¼ "	"	.....	09	3 "	"	.....	22
1½ "	"	.....	11	3½ "	"	.....	26
2 "	"	.....	15	4 "	"	.....	30

Endless Belts made to order for which THREE EXTRA FEET will be charged for the SPLICE.

Cotton Belting.

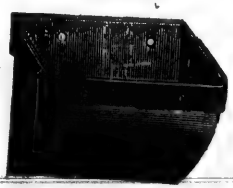
2 Ply.		3 Ply.		4 Ply.	
Width.	Price.	Width.	Price.	Width.	Price.
1 inch.	$ 04	1½ inch.	$0 07	4 inch.	$0 21
1½ "	05	2 "	09	4½ "	24
2 "	06	2½ "	11	5 "	26
2½ "	07	3 "	13	5½ "	28
3 "	08	3½ "	15	6 "	30
3½ "	09	4 "	16	7 "	34
4 "	10	4½ "	18	8 "	38
5 "	14	5 "	20	9 "	44
6 "	18	5½ "	22	10 "	50
.....	.....	6 "	24	11 "	55
.....	.....	7½ "	28	12 "	60
.....	.....	8 "	32	13 "	67
.....	.....	9 "	36	14 "	75
.....	.....	10 "	40	15 "	83
.....	.....	11 "	45	16 "	90
.....	.....	12 "	50	17 "	95
.....	.....	14 "	62	18 "	1 00
.....	.....	16 "	75	19 "	1 08
.....	.....	18 "	86	20 "	1 15
.....	.....	20 "	96	22 "	1 35

Belting in stock in 3 ply up to 9 inch wide.

Any other ply or width not in stock can be procured in ten days after receipt of order.

Belts of any width and ply not on this List can be made to order at proportionate prices on short notice.

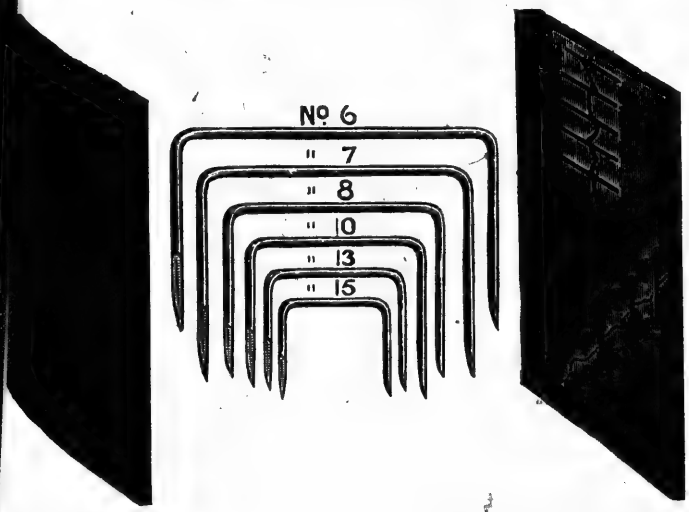
Elevator Buckets.



Across Belt.		Projection.	Capacity. Pints.	Price. cts.
3	x	3	½	5½
3½	x	3	⅝	6
4	x	3	⅝	7
4½	x	3½	1	8
5	x	4	1½	10
5½	x	4	1⅝	11
6	x	4	1¾	12
7	x	5	2¼	14

Odd sizes, 20 per cent. additional.

"Buffalo" Belt Fastener.



FOR NEW BELTS. FOR OLD BELTS.

						Price.
No. 15,	1,000	in each	box,	per 1,000		$1 50
" 13,	"	"	"	"		2 00
" 10,	"	"	"	"		2 50
" 8,	500	"	"	"		3 50
" 7,	250	"	"	"		4 00
" 6,	250	"	"	"		5 00

Pliers for clinching, 35 cents per pair.

DIRECTIONS.

Place the ends of the belt to be fastened on a block of soft wood and drive the fasteners, beginning about one-fourth of an inch from the edge of the belt, and continue driving them at distances of one-half inch apart. Having done this, turn the belt over and place it on a piece of iron; if you have pincers use them to curve the points of the projecting fasteners, then use the hammer to drive the points *back into the belt.* (Always clinch them toward the end of the belt.) Now drive fasteners between those just clinched so that they may be *clinched* on the side that the others were *driven.* Clinch as before, and you will have the best, cheapest and most simple fastening in use.

Rubber Hose.

Internal Diam.	STANDARD.			STEAM.				SUCTION.
	2 Ply Con'g.	3 Ply Hyd.	4 Ply Eng.	3 Ply 20 lbs. Steam	4 Ply 35 lbs. Steam	5 Ply 50 lbs. Steam	6 Ply 75 lbs. Steam	4 Ply Hard Rubber.
½ in.	$0 20	$0 25	$0 30	$0 43	$0 51	$0 64	$0 76	.....
¾	25	30	37	51	67	83	1 00	.....
1	33	40	50	67	83	1 04	1 25	$0 75
1¼	42	50	62	85	1 04	1 30	1 56	93
1½	50	60	75	1 02	1 25	1 56	1 87	1 13
2	66	80	1 00	1 34	1 66	2 07	2 49	1 50
2½	83	1 00	1 25	1 66	2 08	2 60	3 12	1 88
3	99	1 20	1 50	.....	.....	.....	.....	.....

Linen Hose. Cotton Hose.

Inches.	Unlined, Seamless.	Rubber Lined.
1	$0 20	....
1¼	24	....
1½	30	....
2	36	$0 65
2½	45	75

For Hose Couplings, Branches, Fastners, Menders, &c., see page 51.
For Steam Fire Engine Hose, write for prices and particulars.

	SUCTION.
6 Ply 75 lbs. Steam	4 Ply Hard Rubber.
$0 76	.....
1 00	.....
1 25	$0 75
1 56	93
1 87	1 13
2 49	1 50
3 12	1 88
.....	.....

Hose.

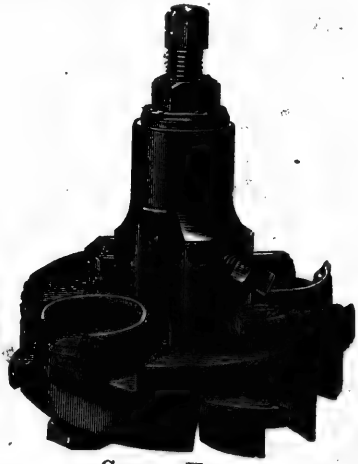
r Lined.

..
..
..
5
5

&c., see page 51
articulars.

The Shimer Matcher Heads.

TONGUE HEAD.



GROOVE HEAD.

THE SHIMER MATCHER HEADS represent a combination parts that give to the Bits the best possible position to form their work at once neatly and economically.

No part of the bit comes in contact with the lumber but cutting edge; *hence their widespread reputation for light easy running.*

tcher Heads, per set, complete with Bits, 2¼ circle and upwards $38 00

tcher Heads, per set, complete with Bits, 2⅛ circle and under. 36 00

They are made to fit any Matcher in use.

rite for special large Catalogue giving full particulars all Shimer's productions. Measurement cards furnished application.

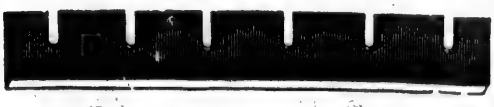
25,000 of the Shimer Cutter Heads are now in use.

Each head is stamped with a number agreeing with a ord number in Mr. Shimer's Order Book. A careful ord is kept of every head made and all its parts.

When you order Cutters or anything pertaining to these ds, please refer to the record number that you will find mped upon each head, and I will understand your wants ctly. Be sure to give the number; it will save time in ting for it.

Machine Knives.

Planing Machine Knives.



Up to 4 in. wide and ⅜ in. thick.

Length.	Each.	Length.	Each.
6 in	$1 20	20 in	$3 2[illegible]
8 "	1 40	22 "	3 6[illegible]
10 "	1 70	24 "	3 8[illegible]
12 "	2 00	26 "	4 2[illegible]
14 "	2 38	28 "	4 5[illegible]
16 "	2 75	30 "	4 8[illegible]
18 "	3 00		

Extra sizes made to order at proportionate prices.

Best American Planer Knives, f.o.b. Toronto; freight and duty paid, at 17c. per inch.

Small Flat Knives.

Up to 3 in. cut, 5 in. wide, or less, per in. face.....30 cts.
" 5 " " " " " " 25

Tenoning, Mitring, Shingle Jointer, and other Irregular Shapes.

Up to 3 in. cut, 5 in. wide, or less, per in. face.....35 cts.
" 6 " " " " " " 30
Moulding Cutters, finished, per in. face.....45
" " blanks slotted, per in. face.....20
Plated Stock, for Moulding Cutters, per lb.....30
Matcher Bitts, " " each.....35

Stave Cutter Knives.

Length, 36 inches up to 6½ inches wide.....$20 00 each
" 36 " 7 " 21 00
" 39 " 6½ " 21 00
" 39 " 7 " 22 00

Stave Jointer Knives.

Length, 32 in. up to 7 in. wide in centre.....$9 50 each
" 34 " 7 " " 10 00
Bed Pieces.....2 50

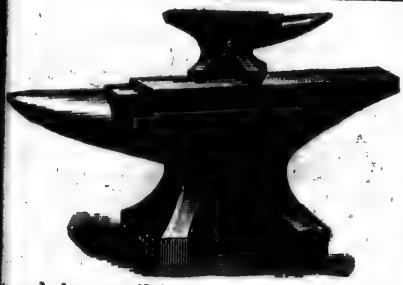
Cheese Box or Veneer Knives.

Length, 60 in. up to 7 in. wide, and ¾ in. thick.....$50 00 each
Over 60 in. to 70 in., $1.00 per in. added.
" 70 " 80 " 1.50 " "
" 80 " 100 " 2.00 " "

Book of Moulding Patterns.

I have a large book of patterns of all styles of Mouldings, Railing etc., price 50c. each, by mail, prepaid. It will pay any woodworker have one of these. All the patterns are numbered, so that knives can ordered by number.

Eagle Anvils.



These anvils are fully warranted. The "Peter Wright" and all anvils, except the EAGLE, are made with a body and horn of fibrous wrought iron. This soft iron gradually settles, carrying the face with it, and the anvil becomes hollowed on the face. Shear steel for the face is used, but it can never be made to take good temper like cast steel. The EAGLE ANVIL body is made of gun metal—crystallized iron—which neither settles nor breaks, and not only the face, but the horn also, is of the best Tool. Cast Steel, welded on so perfectly by the process of its original and only inventor, the late Mr. Mark Fisher, that it is warranted never to come off. The face, planed to a true surface, is made so hard that it always remains so. The steel horn is tough and unhardened and will not break or bend.

STANDARD DIMENSIONS.

Weight.	FACE.			HORN.
	Length.	Width.	Cutter Hole Square.	Length.
Pounds.	Inches.	Inches.	Inches.	Inches.
100	12	3½	⅜	8½
110	12¾	3½	⅜	8½
120	12¾	3¾	⅜	8¼
130	13½	3¾	⅜	9
140	14	4	⅜	9
155	14¾	4	⅜	10
160	14¾	4¼	1	10
170	15	4¼	1	10
180	15½	4¼	1	10
200	16¼	4¾	1	10½
215	17	4¾	1	10¾
225	16½	4¾	1	10
250	17¼	5¼	1⅛	10½
275	17¾	5¼	1⅛	11
300	18½	5¼	1⅛	11½
350	19¾	6	1¼	12
400	21	6	1¼	12½
150	22	6½	1⅜	14
500	23	6½	1⅜	14½

Horse-Shoers (Special.)

Price 11c. per lb.

Dodge Wood Split Pulleys.

Give diameter, face and bore, and state whether straight or crowing face, when ordering.

DIAMETER—INCHES.	WIDTH OF FACE—INCHES.										
	3	4	5	6	7	8	9	10	12	14	16
12	$2 80	$2 95	$3 20	$3 55	$3 70	$3 85	$4 08	$4 30	$5 10		
14	3 00	3 25	3 65	4 10	4 40	4 70	5 02	5 35	6 00	$6 60	
16	3 30	3 65	4 05	4 60	5 05	5 50	5 90	6 30	7 00	7 70	
18	3 70	4 05	4 55	5 10	5 65	6 20	6 65	7 10	8 00	9 00	$10 7
20		4 45	5 20	6 00	6 60	7 15	7 60	8 00	9 50	11 00	12 60
22		4 95	5 90	6 85	7 45	8 00	8 70	9 40	11 20	13 00	14 20
24		5 40	6 35	7 30	8 05	8 80	9 65	10 45	12 70	15 10	17 50
26		6 35	7 00	7 95	8 80	9 60	10 05	11 40	14 20	17 50	20 80

For odd inches of diameter and face, divide the difference between the even inches, lower and higher.

Dodge Wood Split Pulleys.—*Continued.*

DIAMETER—INCHES	WIDTH OF FACE—INCHES 5	6	8	10	12	14	16	18	20	22	24
28	7 80	8 60	10 30	12 10	15 25	19 00	23 00	$26 90	$33 00	$37 00	$41 50
30	8 60	9 40	11 50	13 25	16 50	21 00	25 40	30 00	34 50	38 25	42 25
32	9 40	10 30	12 90	15 00	17 90	22 75	27 75	32 25	36 25	40 25	44 25
34	10 50	11 50	14 50	17 00	20 00	24 50	30 00	34 50	38 75	42 75	46 75
36	11 90	13 00	16 00	19 10	22 50	26 50	32 40	37 00	41 50	45 50	49 50
40	14 50	16 00	19 00	22 50	26 75	31 00	36 25	41 50	48 00	52 50	58 00
44	17 50	19 50	23 75	27 50	31 50	36 00	40 75	46 00	54 00	59 00	67 00
48	22 00	24 50	28 00	32 50	36 00	41 00	45 00	50 00	62 00	71 50	80 00
50		27 25	31 50	35 50	39 00	44 00	50 00	56 00	65 00	74 50	85 50
54		33 50	37 50	41 00	45 00	49 50	55 50	64 50	73 50	83 00	92 50
56		37 00	40 50	44 50	48 50	53 50	60 00	69 50	84 00	93 25	102 50
60		42 50	47 00	51 50	56 00	62 00	68 50	78 00	91 00	101 00	111 00
66		47 00	51 50	57 00	63 50	71 50	80 00	89 00	103 00	115 00	130 00
72		51 50	57 00	64 00	71 50	80 00	90 00	100 00	115 00	131 00	145 00
78			79 00	87 00	95 00	104 00	114 00	124 00	134 00	146 00	168 00
84			95 00	102 00	110 00	119 00	129 00	139 00	154 00	170 00	193 00
90			110 00	117 00	125 00	134 00	144 00	154 00	174 00	192 00	217 00
96			124 00	131 00	140 00	150 00	160 00	170 00	192 00	212 00	237 00

For odd inches of diameter and face, divide the difference between the even inches, lower and higher.

Steel Set Screws.

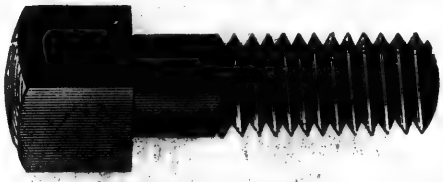
PRICE PER HUNDRED.

Length under head to point.	Diameter of Screw.								
	¼	5-16	⅜	7-16	½	9-16	⅝	¾	⅞
¾	$4 80	$5 30	$6 00	$6 95	$8 15	$9 60	$12 00	.....	.....
1	5 15	5 65	6 35	7 45	8 65	10 20	12 00	$16 80	.....
1¼	5 50	6 00	6 70	7 95	9 15	10 80	12 60	16 80	$24 60
1½	5 85	6 35	7 05	8 45	9 65	11 40	13 20	18 00	24 60
1¾	6 20	6 70	7 45	9 00	10 20	12 10	13 90	19 30	26 20
2	6 60	7 10	7 90	9 60	10 80	12 80	14 70	20 80	28 00
2¼	.....	7 55	8 40	10 20	11 50	13 60	15 50	22 40	30 00
2½	.....	.....	9 00	11 00	12 20	14 50	16 40	24 10	32 30
2¾	.....	.....	.....	11 80	13 00	15 50	17 40	25 90	34 70
3	.....	.....	.....	.....	13 90	16 60	18 50	27 80	37 30
Threads	20	18	16	14	12	12	11	10	9
Add for each ¼ in	$0 45	$0 50	$0 70	$0 90	$1 00	$1 20	$1 25	$2 00	$2 80

Iron Set Screws (Case Hardened).

Length under head to point.	Diameter of Screw.									
	¼	5-16	⅜	7-16	½	9-16	⅝	¾	⅞	1
	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.
¾	2 00	2 20	2 50	2 90	3 40	4 25	5 00	.....	.....	.....
1	2 15	2 35	2 65	3 10	3 60	4 25	5 00	7 00	.....	.....
1¼	2 30	2 50	2 80	3 30	3 80	4 50	5 25	7 00	11 30	.....
1½	2 45	2 65	2 95	3 50	4 00	4 75	5 50	7 50	11 30	14 90
1¾	2 60	2 80	3 10	3 70	4 20	5 00	5 75	8 00	12 00	15 90
2	2 80	3 00	3 30	3 95	4 45	5 30	6 05	8 60	12 90	17 00
2¼	....	3 25	3 55	4 25	4 75	5 65	6 40	9 30	13 80	18 40
2½	....	....	3 85	4 60	5 10	6 05	6 80	10 00	14 80	19 80
2¾	....	....	....	5 00	5 50	6 50	7 25	10 80	15 90	21 40
3	....	....	....	....	5 95	7 00	7 75	11 70	17 10	23 00
Threads	20	18	16	14	12	12	11	10	9	8
Add for each ¼ in	0 25	0 30	0 35	0 45	0 50	0 55	0 60	1 00	1 30	1 70

Square Head Cap Screws.



PRICE PER HUNDRED.

Dia. of Head.....		3/8	7-16	1/2	9-16	5/8	11/16	3/4	7/8	1 1/8	1 1/4
Length of Head...		9-32	11/32	13/32	15/32	9-16	5/8	11-16	13-16	15-16	1 1/16
Dia. of Screw.....		1/4	5-16	3/8	7-16	1/2	9-16	[illegible]	3/4	7/8	1
Length under Head to Point.	3/4	2 40	2 75	3 20	3 80	4 40	5 75	.....	.....	.....	.....
	1	2 60	2 95	3 40	4 00	4 70	5 75	7 70	.....	.....	.....
	1 1/4	2 75	3 10	3 65	4 20	4 95	6 05	7 70	10 50	.....	.....
	1 1/2	2 90	3 30	3 85	4 45	5 25	6 35	8 25	10 50	14 00	.....
	1 3/4	3 05	3 50	4 10	4 70	5 55	6 65	8 80	11 10	14 80	18 00
	2	3 25	3 70	4 35	4 95	5 90	7 05	9 40	11 80	15 70	19 00
	2 1/4	....	4 00	4 65	5 25	6 30	7 55	10 10	12 60	16 70	20 20
	2 1/2	....	....	5 00	5 60	6 75	8 15	10 90	13 50	17 80	21 50
	2 3/4	....	....	....	6 00	7 25	8 85	11 80	14 60	19 10	23 10
	3	....	....		....	7 80	9 65	12 80	15 90	20 60	25 00
Threads to inch..		20	18	16	14	12	12	11	10	9	8
Add for each 1/4 in..		25	35	45	55	65	90	1 20	1 50	1 80	2 30

Hexagon Head Cap Screws.

Diameter of Head...		7-16	1/2	9-16	5/8	3/4	13-16	7/8	1	1 1/8
Length of Head....		9-32	11/32	13/32	15/32	9-16	5/8	11-16	13-16	15-16
Diameter of Screw..		1/4	5-16	3/8	7-16	1/2	9-16	5/8	3/4	7/8
Length under Head to Point.	3/4	3 00	3 25	3 75	4 40	5 50	7 00	.....	.....	.....
	1	3 25	3 50	4 00	4 70	5 70	7 00	9 50	.....	.....
	1 1/4	3 50	3 75	4 25	5 00	6 00	7 50	9 50	12 20	.....
	1 1/2	3 75	4 00	4 50	5 30	6 30	8 00	10 00	12 20	16 00
	1 3/4	4 00	4 25	4 75	5 60	6 60	8 50	10 60	12 80	16 60
	2	4 25	4 60	5 05	5 95	7 00	9 10	11 20	13 40	17 20
	2 1/4	....	5 00	5 40	6 35	7 50	9 70	11 90	14 10	17 90
	2 1/2	....	....	5 80	6 80	8 00	10 40	12 70	14 90	18 80
	2 3/4	....	....	....	7 30	8 60	11 20	13 60	15 90	20 00
	3	....	....	....	....	9 30	12 10	14 70	17 60	21 80
Threads to inch.....		20	18	16	14	12	12	11	10	9
Add for each 1/4 inch.		30	40	50	60	80	$1 00	$1 30	$1 60	$2 00

PRICE OF MATERIALS FOR AIR-CHAMBER COVERINGS, COMPLETE, INCLUDING CANVAS.

Single Air-Chamber Covering, per sq. foot, flat measure, - 21 cts.
Double Air-Chamber Covering, " " " " - 26 cts.

PRICE PER LINEAL FOOT ON REGULAR SIZES OF PIPE.

Sizes of Pipe.	¼ in.	⅜ in.	1 in.	1½ in.	2 in.	2½ in.	3 in.	3½ in.	4 in.	5 in.	6 in.
	cts.	cts.	cts.	cts.	cts.	cts.	cts.	cts.	cts.	cts.	cts.
Single Air-Chamber Covering...	18	20	23	27	32	36	41	45	50	60	69
Double Air-Chamber Covering....	27	33	36	42	48	54	60	66	72	87	1 02

Asbestos Piston Rod Packing, 1¼ in. to 2 in. diameter..... 50c.
" Wick " in 1 lb. balls..... 50
" Millboard " 40 x 40 30
" Cement Felting, per bbl., (160 lbs)..... $5.00

Rubber Steam Packing.

Cloth insertion—cloth on either or both sides—1-16 or thinner, 1, 2 or 3 ply..... per lb. 35c.
3-32 or thicker, 1, 2 or 3 ply..... " 30c.
Square piston and valve rod, 1, 2 or 3 ply..... " 80c.

Russia Hemp Packing..... per lb. 20c.
Italian " " ..... " 30c.
Soapstone " " ..... " 30c.
Kidders' Plumbago $\frac{1}{32}$ in. and thicker..... " 60c.

Machine Bolts.

PRICE PER HUNDRED.

Length.	1/4	5/16	3/8	7/16	1/2	9/16 & 5/8	3/4	7/8	1
1½ inch	$2 80	$3 20	$3 60	$4 60	$5 00	$7 20	$10 50	$14 90	$22 00
2 "	2 90	3 35	3 80	4 90	5 30	7 70	11 10	15 80	23 10
2½ "	3 00	3 50	4 00	5 20	5 60	8 20	11 70	16 60	24 20
3 "	3 10	3 65	4 20	5 50	5 90	8 70	12 30	17 50	25 30
3½ "	3 20	3 80	4 40	5 80	6 20	9 20	12 90	18 30	26 40
4 "	3 30	3 95	4 60	6 10	6 50	9 70	13 50	19 20	27 50
4½ "	3 40	4 10	4 80	6 40	6 80	10 20	14 10	20 00	28 60
5 "	3 50	4 25	5 00	6 70	7 10	10 70	14 70	20 90	29 70
5½ "	3 60	4 40	5 20	7 00	7 40	11 20	15 30	21 70	30 80
6 "	3 70	4 55	5 40	7 30	7 70	11 70	15 90	22 60	31 90
6½ "	3 80	4 70	5 60	7 60	8 00	12 20	16 50	23 40	33 00
7 "	3 90	4 85	5 80	7 90	8 30	12 70	17 10	24 30	34 10
7½ "	4 00	5 00	6 00	8 20	8 60	13 20	17 70	25 10	35 20
8 "	4 10	5 15	6 20	8 50	8 90	13 70	18 30	26 00	36 30
9 "	.....	.....	6 60	9 10	9 50	14 75	19 50	27 70	38 50
10 "	.....	.....	7 00	9 70	10 10	15 75	20 70	29 40	40 70
11 "	.....	.....	7 40	10 30	10 70	16 75	21 90	31 10	42 90
12 "	.....	.....	7 80	10 90	11 30	17 75	23 10	32 80	45 10
13 "	.....	.....	.....	.....	11 90	18 75	24 30	34 50	47 30
14 "	.....	.....	.....	.....	12 50	19 75	25 50	36 20	49 50
15 "	.....	.....	.....	.....	13 10	20 75	26 70	37 90	51 70
16 "	.....	.....	.....	.....	13 70	21 75	27 90	39 60	53 90
17 "	.....	.....	.....	.....	14 30	22 75	29 10	41 30	56 10
18 "	.....	.....	.....	.....	14 90	23 75	30 30	43 00	58 30
19 "	.....	.....	.....	.....	15 50	24 75	31 50	44 70	60 50
20 "	.....	.....	.....	.....	16 10	25 75	32 70	46 40	62 70

Bolts with Hexagon Nuts, 10 per cent. extra.

If both Hexagon Heads and Hexagon Nuts, 20 per cent. extra.

Common Carriage Bolts.

PRICE PER HUNDRED.

Length.		5/16 & 1/4	3/8	7/16	1/2	9/16 & 5/8	3/4
1 to 1½	in.	$1 25	$1 40	$2 20	$3 10	$3 40	$7 30
1¾	"	1 40	1 68	2 30	3 10	3 40	7 30
2	"	1 45	1 75	2 30	3 10	3 40	7 30
2¼	"	1 50	1 83	2 40	3 23	3 95	7 30
2½	"	1 55	1 90	2 50	3 35	4 12	7 30
2¾	"	1 60	1 98	2 60	3 48	4 28	7 30
3	"	1 65	2 05	2 70	3 60	4 44	7 30
3¼	"	1 70	2 13	2 80	3 73	4 60	7 75
3½	"	1 75	2 20	2 90	3 85	4 76	8 00
3¾	"	1 80	2 28	3 00	3 98	4 92	8 25
4	"	1 85	2 35	3 10	4 10	5 08	8 50
4¼	"	1 90	2 43	3 20	4 23	5 24	8 75
4½	"	1 95	2 50	3 30	4 35	5 40	9 00
4¾	"	2 00	2 58	3 40	4 48	5 56	9 25
5	"	2 05	2 65	3 50	4 60	5 72	9 50
5¼	"	2 10	2 73	3 60	4 73	5 88	9 75
5½	"	2 15	2 80	3 70	4 85	6 04	10 00
5¾	"	2 20	2 88	3 80	4 98	6 20	10 25
6	"	2 25	2 95	3 90	5 10	6 36	10 50
6¼	"	2 30	3 03	4 00	5 23	6 52	10 75
6½	"	2 35	3 10	4 10	5 35	6 68	11 00
7	"	2 45	3 25	4 30	5 60	7 00	11 50
7½	"	2 55	3 40	4 50	5 85	7 32	12 00
8	"	2 65	3 55	4 70	6 10	7 64	12 50
8½	"	2 75	3 70	4 90	6 35	7 96	13 00
9	"	2 85	3 85	5 10	6 60	8 28	13 50
9½	"	2 95	4 00	5 30	6 85	8 60	14 00
10	"	3 05	4 15	5 50	7 10	8 92	14 50
10½	"	3 15	4 30	5 70	7 35	9 24	15 00
11	"	3 25	4 45	5 90	7 60	9 56	15 50
11½	"	3 35	4 60	6 10	7 85	9 88	16 00
12	"	3 45	4 75	6 30	8 10	10 20	16 50
12½	"	3 55	4 90	6 50	8 35	10 52	17 00
13	"	3 65	5 05	6 70	8 60	10 84	17 50
13½	"	3 75	5 20	6 90	8 85	11 16	18 00
14	"	3 85	5 35	7 10	9 10	11 48	18 50
14½	"	3 95	5 50	7 30	9 35	11 80	19 00
15	"	4 05	5 65	7 50	9 60	12 12	19 50
15½	"	4 15	5 80	7 70	9 85	12 44	20 00
16	"	4 25	5 95	7 90	10 10	12 76	20 50

Diame		9/16 & 5/8	3/4
1	inch	.....	$13 50
1¼	"	.....	13 85
1½	"	.....	14 20
1¾	"	.....	14 55
1⅞	"	.....	14 90
2	"	.....	15 25
2¼	"	.....	15 60
2½	"	.....	15 95
2¾	"	.....	16 30
3	"	.....	16 65
3¼	"	.....	17 00
3½	"	.....	17 35
3¾	"	.....	17 70
4	"	.....	18 05
4¼	"	.....	18 40
4½	"	.....	19 10
4¾	"	.....	19 60
5	"	.....	20 50
5¼	"	.....	21 20
5½	"	.....	21 90
5¾	"	.....	22 60
6	"	.....	23 30
6¼	"	.....	24 00
6½	"	.....	24 70
6¾	"	.....	25 40
7	"	.....	26 10
7¼	"	.....	26 80
7½	"	.....	27 50
7¾	"	.....	28 20
8	"	.....	28 90
8¼	"	.....	29 60
8½	"	.....	30 30
8¾	"	.....	31 00
9	"	.....	31 70

Square and Hexagon Nuts.

(Hot Pressed. U.S. Standard sizes.)

Diameter.	Thick.	Hole.	Bolt.	Price.	
				Square.	Hexagon.
$\frac{1}{2}$	$\frac{1}{4}$	$\frac{13}{64}$	$\frac{1}{4}$	13 cents.	20 cents.
$\frac{19}{32}$	$\frac{5}{16}$	$\frac{1}{4}$	$\frac{5}{16}$	12 "	18 "
$\frac{11}{16}$	$\frac{3}{8}$	$\frac{19}{64}$	$\frac{3}{8}$	10.5 "	14 "
$\frac{25}{32}$	$\frac{7}{16}$	$\frac{11}{32}$	$\frac{7}{16}$	10 "	13 "
$\frac{7}{8}$	$\frac{1}{2}$	$\frac{25}{64}$	$\frac{1}{2}$	9 "	11.2 "
$\frac{31}{32}$	$\frac{9}{16}$	$\frac{29}{64}$	$\frac{9}{16}$	9 "	11.2 "
$1\frac{1}{16}$	$\frac{5}{8}$	$\frac{33}{64}$	$\frac{5}{8}$	8.7 "	10.2 "
$1\frac{1}{4}$	$\frac{3}{4}$	$\frac{5}{8}$	$\frac{3}{4}$	8.4 "	9.9 "
$1\frac{7}{16}$	$\frac{7}{8}$	$\frac{47}{64}$	$\frac{7}{8}$	8.4 "	9.9 "
$1\frac{5}{8}$	1	$\frac{27}{32}$	1	8 2 "	9.7 "
$1\frac{13}{16}$	$1\frac{1}{8}$	$\frac{15}{16}$	$1\frac{1}{8}$	8.2 "	9.7 "
2	$1\frac{1}{4}$	$1\frac{1}{16}$	$1\frac{1}{4}$	8.4 "	9.9 "
$2\frac{3}{16}$	$1\frac{3}{8}$	$1\frac{5}{32}$	$1\frac{3}{8}$	8.4 "	9.9 "
$2\frac{3}{8}$	$1\frac{1}{2}$	$1\frac{9}{32}$	$1\frac{1}{2}$	8.8 "	10.3 "
$2\frac{9}{16}$	$1\frac{5}{8}$	$1\frac{3}{8}$	$1\frac{5}{8}$	8.8 "	10.3 "
$2\frac{3}{4}$	$1\frac{3}{4}$	$1\frac{1}{2}$	$1\frac{3}{4}$	9.3 "	10.8 "
$2\frac{15}{16}$	$1\frac{7}{8}$	$1\frac{5}{8}$	$1\frac{7}{8}$	9.3 "	10.8 "
$3\frac{1}{8}$	2	$1\frac{23}{32}$	2	9.5 "	11 "
$3\frac{13}{16}$	$2\frac{1}{8}$	$1\frac{13}{16}$	$2\frac{1}{8}$	10 "	11.5 "
$3\frac{1}{2}$	$2\frac{1}{4}$	$1\frac{15}{16}$	$2\frac{1}{4}$	10 "	11.5 "

Flat Head Stove Bolts.

Length.	$\frac{1}{4}$	$\frac{5}{16}$	$\frac{3}{8}$
$\frac{3}{4}$ inch	$0 65	$1 05	$2 20
1 "	70	1 10	2 20
$1\frac{1}{4}$ "	75	1 15	2 20
$1\frac{1}{2}$ "	80	1 20	2 20
$1\frac{3}{4}$ "	85	1 25	2 20
2 "	90	1 30	2 20
$2\frac{1}{4}$ "	95	1 35	2 30
$2\frac{1}{2}$ "	1 00	1 40	2 40
$2\frac{3}{4}$ "	1 05	1 45	2 50
3 "	1 10	1 50	2 60

Sundry Goods.

Boiler Tubes. Size $1\frac{1}{2}$, $1\frac{3}{4}$, 2, $2\frac{1}{4}$, $2\frac{1}{2}$, 3, $3\frac{1}{2}$, 4. Price: Lowest market. Send for quotations.

Boiler Plates. Steel and Iron. Send for circular.

Sheet Iron, at lowest market prices. Give size and gauge in ordering.

Guy Wire. Galvanized. 7 Strands.

Size of each strand.....	No. 19	No. 18	No. 17	No. 16
Price per 100 feet.....	60c.	70c.	80c.	$1.00

Wire Rope. Homogeneous Steel—hemp centre—6 strands of 7 wires each.

Diameter	$\frac{9}{32}$	$\frac{5}{16}$	$\frac{3}{8}$	$\frac{7}{16}$	$\frac{1}{2}$	$\frac{9}{16}$	$\frac{5}{8}$	$\frac{3}{4}$
Per foot	4c.	5c.	6c.	7c.	8c.	9c.	12c.	16c.

Chain, from $\frac{1}{8}$ to 1 inch, in lengths to suit, at lowest market prices.

Babbitt.

No.	0	1	A
Per pound	10c.	12c.	35c.

Grindstones. Any size and grade at lowest market prices.

Shafting, turned to standard, in sizes 1 in. to 6 in. diameter. Usual sizes in stock ready for shipment, at lowest market price.

Hangers. Adjustable drop, post, beam or standard pattern; sizes $1\frac{1}{2}$ to 3 in. in stock, at lowest market prices. Prompt delivery.

Pulleys. Any size of Pulley furnished. Give diameter, face and bore, and state whether crowning or straight-face when ordering. I always have a large number of pulleys on hand.

Castings of every description at lowest market prices.

Waste. Best Machined Cotton Waste.

No. 1, White, per lb.	10c.	No. 1, Colored, per lb.	8c.
" 2, " "	$9\frac{1}{2}$c.	" 2, " "	7c.

Pick Handles. Miners extra, per doz. $2,50, No. 1 $2.00, No. 2, $1.50. Fork, axe and hammer handles to order.

Standard Punches. Richards' Patent Standard Size Punches, Dies and Couplings, from $\frac{1}{8}$ to $1\frac{1}{4}$ in. Send for circulars.

Speed Indicators, each $1.50.

Pulsometers. Send for catalogue.

Centrifugal Pumps. Send for catalogue.

Portable Platform Scales.

WITHOUT WHEELS.

No. 11½,	Capacity	400 lbs.,	Platform	22 x 15 in.	Price	$19	50
" 11	"	600 "	"	25 x 16 in.	"	23	50
" 10½	"	1,000 "	"	26 x 17 in.	"	26	00
" 10	"	1,200 "	"	28 x 20 in.	"	31	00
" 9	"	1,500 "	"	28 x 21 in.	"	34	00
" 8	"	2,000 "	"	30 x 23 in.	"	37	00
" 7	"	2,500 "	"	30 x 23 in.	"	47	00

WITH WHEELS.

No. 11½,	Capacity	400 lbs.,	Platform	22 x 15 in.	Price	$21	50
" 11	"	600 "	"	25 x 16 in.	"	25	50
" 10½	"	1,000 "	"	26 x 17 in.	"	29	00
" 10	"	1,200 "	"	28 x 20 in.	"	34	00
" 9	"	1,500 "	"	28 x 21 in.	"	37	00
" 8	"	2,000 "	"	30 x 23 in.	"	40	00
" 7	"	2,500 "	"	30 x 23 in.	"	50	00

WITH HEAVY WHEELS AND DROP LEVER.

No. 10½,	Capacity	1,200 lbs.,	Platform	26 x 17 in.	Price	$33	00
" 10	"	1,500 "	"	28 x 20 in.	"	38	00
" 9	"	2,000 "	"	28 x 21 in.	"	46	00
" 8	"	2,500 "	"	30 x 23 in.	"	51	00
" 7	"	3,000 "	"	30 x 23 in.	"	61	00

Warehouse Scales.

						WITH WHEELS.	WITHOUT.
No. 1,	Capacity	5,000 lbs.,	Platform	48 x 48 in.	Price	$110 00	$100 00
" 4	"	3,500 "	"	42 x 44 in.	"	85 00	80 00
" 5	"	3,000 "	"	31 x 40 in.	"	68 00	65 00
" 7	"	2,500 "	"	25 x 34 in.	"	63 00	60 00
" 9	"	2,000 "	"	21 x 31 in.	"	50 00	46 00

Counter Scale.

(Capacity 1-2 oz. to 36 lbs.)

Price, with Tin Scoop..... $8 00
" " Brass Scoop..... 9 00

Grocers' Scale—Single Beam.

(Capacity 1-2 oz. to 62 lbs.)

Price, with Tin Scoop..... $9 00
" " Brass Scoop..... 10 00

Pecora Paint Co.'s Steel Colors,

FOR ENGINES, TOOLS AND GENERAL MACHINERY.

This paint gives a smooth and handsome finish; dries quick and hard; is uniform in shade, and very durable. In four shades—light, standard, medium, and dark.

Barrels (800 lbs.)	at 10c.	per lb.
Half Barrels (400 lbs.)	" 10½c.	"
Quarter Barrels (150 to 250 lbs.)	" 11c.	"
Cans (6 in a case), 25 lbs. each	" 12c.	"
"Paint Thinner," for Flat Color	90c.	per gal.
Iron Filler	$2.80	"

The Filler makes rough castings smooth, fills all holes and irregularities even, thus preparing the castings for a fine finish with the "Steel Color."

INDEX.

	PAGE.
Anvils	99
Asbestos	104
Babbitt	108
Bailey Lathes	12
Band Saw Machines	11
" " Blades	90
" " Sets	90
" " Files	90
Band Mills	14
Barnes Foot-power Machinery	7
Bellows	9
Belting Leather	92
" Rubber	93
" Cotton	94
Belt Fasteners	95
Blacksmiths' Machinery	9
Blind Machinery	12
Block Bolters	16
Blowers	28-31
Boilers (Horizontal)	17
" (Portable)	18-20
" (Upright)	22
Boilers and Pumps	27
Boiler Feeders	72-74
" Tubes	108
" Plates	108
Bolt Cutters	5-9
" Header	5
" Clipper	9
Bolters	16
Bolts (Machine)	105
" (Carriage)	106
Boring Machines	7-13
"Boss" Machinery	16
Brazing Tongs	90
" Clamps	90
Bradley Hammers	5
Branch Tees	58
Brick Machinery	25
Bull Wheels	15
Canters	15
Cap Screws	103
Carriage Bolts	106
Castings	108
Cast Iron Fitings	58
Centres (Index)	5

INDEX.—*Continued.*

	PAGE.
Chain Tongs	77
Chain	108
Chucks, Lathe	65-68
" Planer	67
" Drill	69
" Valve	6
" Drill Holder	81
Circular Saws	89
Cylinder Lubricators	54
Die Stocks	34
Dies	34-46
Die Plates	35
Door Clamp	13
Dovetailing Machine	12
Drag Saws	90
Drills (Twist)	47-50
" (Ratchet)	65
Drill Holders	81
Drilling Machines	4-7 9
Drive Chain	60-61
" " Wheels	62
Drop Hammers	5
Eclipse Saw Mills	14
Esplin Band "	14
Edgers	15
Elevator Buckets	94
Emery Machinery	70
" Wheels	71
Engines (Stationary)	19
" (Automatic)	20
" (Marine)	20
" (Portable)	20
" (Upright)	22
" (Hoisting)	24
" (Gas)	26
Engine Lathes	3
Ewart's Drive Chain	60-61
Expansion Joints	51
Fans	28-31
Files and Rasps	63-64
Force Pumps	87
Forges (Portable)	75
Forge Furnace	5
Gauge Cocks	52
Governors	32
Grindstones	108
Guy Wire	108
Hammers (Bradley)	5
" (Drop)	5
Handle, Saw	12
Hangers	108
Hoisting Engines	24
Hoists, Harrington	86
Hoop Machinery	83

	PAGE.
Hook Plates	58
Hose, Rubber	96
" Linen	96
" Couplings	51
" Branches	51
" Clamps	51
" Benders, etc	51
Inspirators	72-74
Injectors	72-74
I. X. L. Pipe Machine	8
Iron Pipe	59
Iron Planers	2
" Cocks	53
Jack Screws	76
Key Seat Slotters	5
Knife Grinders	70
Knives (Planer)	98
" (Moulding)	98
Lathes, Engine	3-7
" Gap	4
" Turrett	4
" Bench	6
" Brass	6
" Fox	6
" Gauge Wood	12
" Spoke	12
" Wood	11
" Foot	7
Lathe Dogs	79-81
Lath Yarn	16
" Bolter	16
" Machine	16
" Equalizer	16
Lane Mills	14
Lubricators	54
Machine Bolts	105
Machine Knives	97
Malleable Fittings	54-57
Matcher Heads (Shimer)	97
Marine Engines	20
Mill Dogs	15
Milling Machines	4
" " (Valves)	6
Mitre Machine	12-113
Mortising Machine	13
" " (Hub)	13
Moulding "	11
" Knives	98
" Patterns	98
McClosky Separators	13
Nuts	107
Oil Cups	52
Ore Crushers	70
Packers	16

PAGE.
Packing Asbestos..... 104
" Sundry 104
"Penberthy" Injectors..... 73
Pecora Paint..... 110
Pick Handles..... 108
Pipe Machine 8
" Cutters..... 77
" Vises..... 76
" (Iron) 59
Planers (Iron)..... 2
Planers and Matchers 10
Planers (Wood) 10
" (Buzz) 11
Planer Knives 98
Portable Engines & Boilers..20-21
Press (Drop) 5
Pulleys (" Dodge")..... ..100-101
" (Iron) 108
Pulsometers..... 108
Pumps (Steam) 26-27
" (Force) 87
" (Centrifugal) 108
Punch and Shears 5
Punches 108
Relisher 13
Re-tenoner..... 13
Rim Borer..... 13
Rubber Hose..... 96
" Belt..... 93
" Packing..... 104
Sandpaper Machine..... 12
Sash Clamps..... 31
Saws, Circular..... 89
" Band..... 90
Saws, Shingle..... 91
" Drag.....
Saw Mills.....14-15
Saw Tables.....7-11-12
Saw (Scroll)..... 7
Saw Sharpeners..... 70
Saw Mandrels 91
Scales 109
Separators..... 13
Set Screws.....102
Shapers (Iron)..... 2
" (Wood) 13
Shingle Machinery..... 16
" Saws 91

PAGE.
Shafting..... 108
Sheet Iron..... 108
Shimer Matcher Head..... 97
Silver Solder..... 90
Slash Table..... 15
Slab Saw..... 15
Slotters..... 5
Smoke Stacks..... 17
Speed Indicators..... 108
Spoke Lathes.....12-13
Steam Pumps.....26-27
" Gauges..... 54
" Pipe..... 59
Stickers..... 11
Stone Crushers..... 70
Stop Cocks.....51-53
Stroke Jointer..... 13
Swing Saws..... 15
Taps and Dies.....34-46
Tenon Machines.....12-13
Threshing Engines..... 21
Tile Machines..... 25
Tire Upsetters..... 9
Traction Engines and Boilers. 21
Trimmers..... 15
Tube Cleaners..... 77
" Expanders..... 91
Twist Drills.....47-50
Valves, Globe, etc.,etc.51-53 55-56
Veneer Machinery..... 16
Vertical Engines and Boilers. 22
Vises.....82-85
" (Pipe)..... 76
Vise Clamps..... 81
Wagon Machinery..... 13
Water Wheels..... 88
Waste 108
Waymouth Lathes..... 12
Wheel Barrow and Scrapers.. 87
Whistles (Steam)..... 52
Wing Disc Fans..... 30
Wiring Machines..... 12
Wire Rope..... 108
Wood Lathes..... 11
" Polishers..... 12
" Splitters..... 33
Wrenches.....76-78-79-80

PAGE.
.. 108
.. 108
.. 97
.. 90
.. 15
.. 15
.. 5
.. 17
.. 108
.. 12-13
.. 26-27
.. 54
.. 59
.. 11
.. 70
.. 51-53
.. 13
.. 15
.. 34-46
.. 12-13
.. 21
.. 25
.. 9
s. 21
.. 15
.. 77
.. 91
.. 47-50
55-56
.. 16
s. 22
.. 82-85
. 76
. 81
. 13
. 88
. 108
. 12
. 87
. 52
. 30
. 12
. 108
. 11
. 12
. 33
79-80

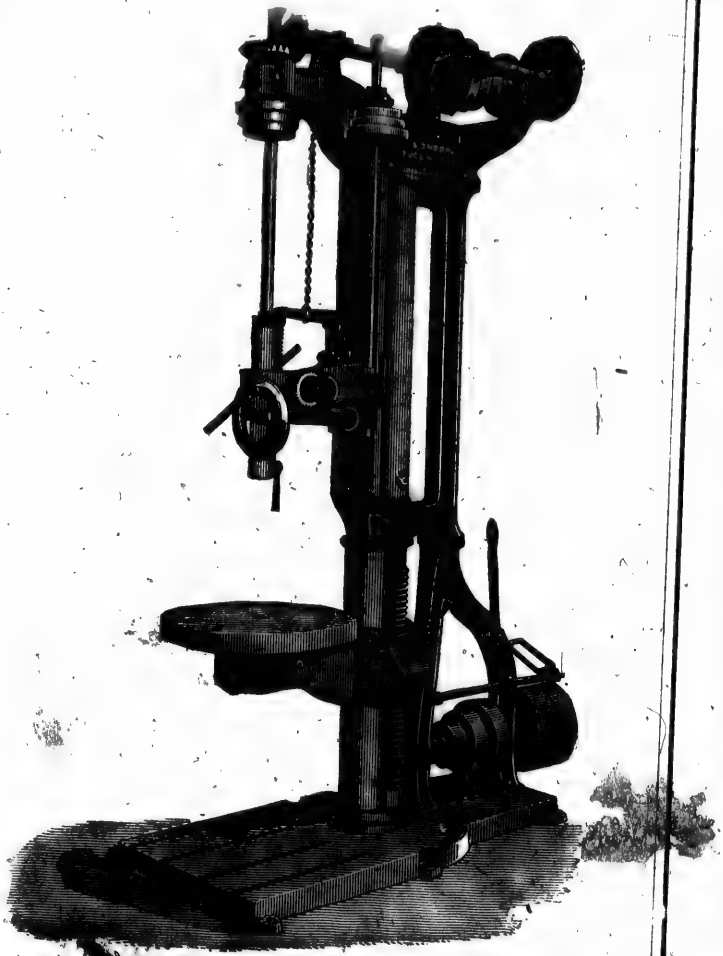
THE SPILKER JOINT-CUTTER.

AHEAD OF ALL OTHERS FOR CHEAPNESS, DURABILITY, AND RAPID OPERATION.

Undoubtedly the best Mitre machine ever offered; has stood the severest tests. They are used by Picture Frame, Sash, Door and Blind and Cabinet and Furniture Manufacturers, and in every branch where mitring is done. A Joint-Cutter will do mitring perfect in two-thirds less time than others.

Any one with very little practice can do work on this machine equal to the best mechanic.

Price, No. 1 Size, Cuts 4 inches wide, 3½ inches high. $36.00 net.



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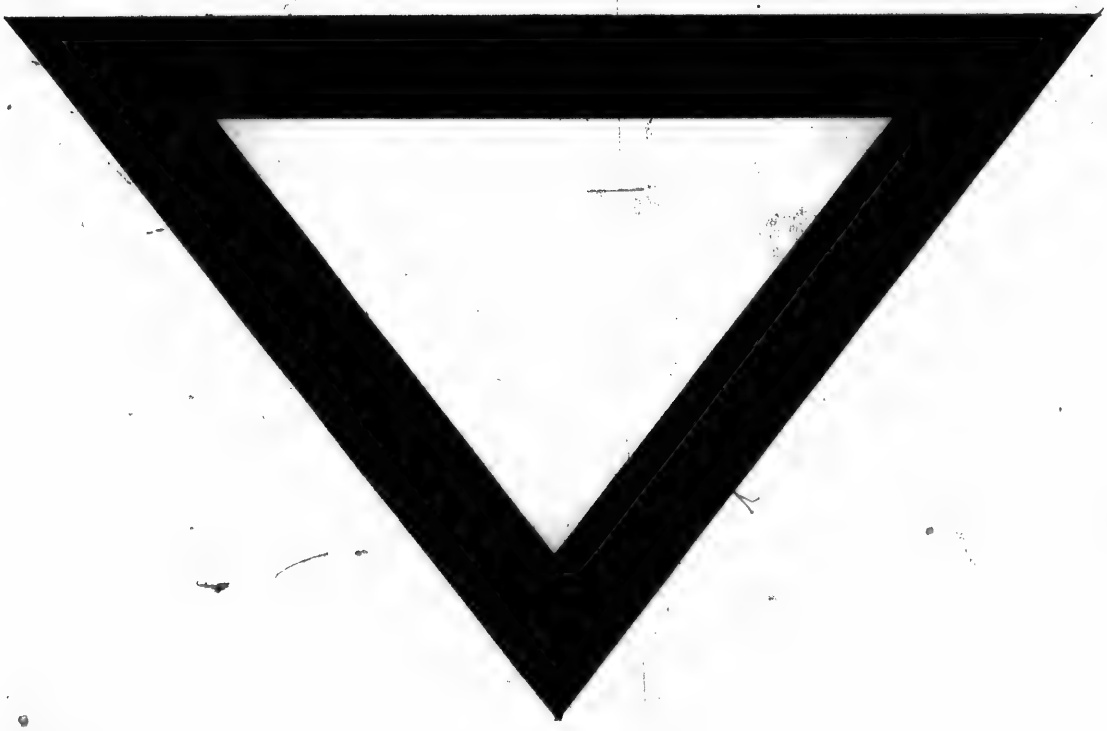
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